CONTENTS

MAY, 1932

Honey Markets	268-269
Editorials	277-279
Baby Nuclei for Mating Queens—Mel Pritchard	280-281
Management in Comb-honey Production—W. A. Rowland	282-284
Beekeeping in Germany—Dr. E. F. Phillips	285-288
A Year's Work for the Queen—Dr. William C. Wilson	288-290
Sweet Clover Comes Back in Kentucky—E. R. Root	290
Selecting the Apiary Site—Edwin J. Anderson	291-293
Endurance of Queens in Mails—H. G. Payne	293
Formalin-Water Solution—E. S. Miller	293-294
Package Business 20 Years Old—W. D. Achord	294-295
Incubation of Queen Cells—Ola Overbey	295
Spinster Jane Says—	296
Chronicles of Beedom—J. F. Dunn	296
From North, East, West and South	297-303
Who's Who in Apiculture	304
Heads of Grain from Different Fields	305-306
Told by the Jay	307
Talks to Beginners—Geo. S. Demuth	308-309
Gleaned by Asking—Geo. Demuth	310-311
Just News	312
Clouds and Sunshine—A. N. Onymous	313
Picture Page	314
Index to Advertisers	332

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The A. I. Root Company, Publishers, Medina, Ohio.

Geo. S. Demuth and E. R. Root, Editors; H. H. Root, Assistant Editor;
M. J. Deyell, Business Manager.

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to be sure of highest quality without paying an exorbitant price to get it, and prompt delivery.

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OLD COMBS RENDERED HIGH QUALITY SUPPLIES
WIRED AND PLAIN FOUNDATION WRITE FOR OUR 1932 CATALOG

The Fred W. Muth Company - - Cincinnati, Ohio

Honey Prospects and Markets

U. S. Government Report of April 15 Summarized.
(Information from Producing Areas for first half of April.)

California Points: In southern California, the recent weather has been warm, dry and clear. Lack of rainfall for several weeks has lessened the supply of nectar in sage plants which are now in bloom, and the hills are getting dry, curtailing the prospective flow of sage honey. Sage plants near the coast are in better shape than those further inland. Heavy bloom reported from the orange orchards, and irrigation, which is in progress in the orange groves, should help the honey flow. Extraction of orange honey is expected to commence in a couple of weeks, or a little later than normal. Estimates vary regarding the probable size of the orange flow. Bloom appears to be more abundant than last year; but more colonies have been moved to the sage districts and fewer to the orange groves than usual, although recently some beekeepers are reported transferring their colonies back to the orange districts. Movement of honey is only light to moderate, with prices showing little change except that some sales of buckwheat-sage are reported at slightly lower figures, and of orange at slightly higher prices. Ton lot sales by beekeepers reported as follows, per lb.: Orange, old crop, white to extra white, 4⅞-5¼c, few higher ;extra light amber, 4¼-5c; buckwheat-sage, extra light amber, 4-4⅜c; light amber, 3¾-4c; occasional lots, 3½c. Beeswax continues about steady, with little demand from eastern markets because of the competition of foreign wax. Considerable wax is coming in locally for comb foundation, and some dealers are paying for wax in trade only. Available supplies of wax are lighter than last year but somewhat heavier than was thought a short time ago. Sales by beekeepers reported at 10-12c per lb. cash; extra light color, 14c; or 12-14c in trade. In central California, honey plants are beginning to show the effects of the lack of moisture, and the sage crop is expected to be short if rains do not come soon. In some sections a considerable percentage of the sage plants have died due to the long succession of dry and semi-dry years. Fireweed plants reported in abundance in some sections.

Intermountain Region—Carlot inquiries are reported fairly numerous during the past two weeks, and local sales have held up quite well. Occasional beekeepers still have most of their honey on hand, but stocks as a whole are light. Comb honey is in especially light supply. Many beekeepers have completely sold out. Carlot sales of white sweet clover and alfalfa reported at 4½-5c per lb.; ton lots, 5-7c; 60s, 5½-8½c; small pails, 7-9c; light amber, few, 60s, 5-6¾c, small pails, 7½c per lb. A few cases of comb honey reported sold at $2.00-2.50 per case. Few sales beeswax reported at 14-16c per lb. in trade.

Arizona—Due to continued cold nights all vegetation is late in developing. However, bees are said to be swarming and are storing some surplus in certain favored areas. In other sections they are barely making a living. Practically no rain has fallen for more than six weeks, but earlier ample rainfall aids crop prospects. Little honey remains unsold. Much beeswax remains unsold, with little demand. Sales reported at 10c per lb.

Southwestern States: South central and southwestern Texas—The early crop of honey will be curtailed because of the late cold weather which killed many huajillo and catsclaw blooms, and will be unusually late. However, bees are bringing in some honey from soapbush and catsclaw, which is blooming again in some sections, and are making a little better than a living. Ground flowers are very backward from lack of rain, and if the dry weather continues horsemint is not likely to yield much surplus. Package orders are reported moving rapidly with some, while others report very light demand for bees and queens. Very few reports of swarming so far, though bees are brooding up fairly well for this time of the year. Stores are light. Fair demand reported for honey. Sales reported, large lots amber extracted in 60-lb. cans, 4c per lb.; large lots bulk comb amber, small pails, 6-7c per lb.; light amber catsclaw extracted, 60s, 6c per lb.

Plains Area—In North Dakota, a larger percentage of colonies require feeding than usual. The honey plants are thought to have come through the winter in satisfactory condition, though drouth and grasshoppers have reduced prospects. Little honey remains unsold. Ton lots white sweet clover reported moved at 6c per lb. South Dakota, clover plants have had more moisture than at this time last year, but plants are scattered because of the drouth season. Bees are light in weight and many must be fed in order to pull them through. Winter losses have been high, due to disease, starvation and poor quality of stores. In Kansas and Nebraska, colonies which have had protection are fully up to the usual strength at this season, but many colonies died during the winter, due to neglect. Prospects for clover and alfalfa are reported favorable and sweet clover is said to be coming up in larger quantities than seemed possible considering last year's drouth.

North Central and South Central States—In Michigan, Wisconsin and Minnesota rain has been abundant, especially in the upper portion of this area, improving prospects. Clover plants are scarce where the drouth was so serious last year. Brood rearing has started and bees are working on soft maple and pussy willows. They appear to have come through the winter in fairly good shape when in two stories; many single story colonies starved or need feeding. Many packages have been ordered. Inquiry for honey has improved recently and sales seem to be more abundant. Stocks of many beekeepers are cleaning up. Sales of white extracted reported, ton lots, 5-6½c; 60s, 7½-8c; small pails, 8-10c; light amber, ton lots, 4-5½c. Few sales reported of comb honey at 3.60-4.00 per case for No. 1, few higher; fancy, $4.00-4.35; some No. 2, $1.50 per case. Beeswax, 18¾c per lb. Ohio, Indiana and Illinois: Conditions are irregular. Many beekeepers report that both bees and clover plants are nearly 100 per cent and that prospects appear favorable for a good flow of nectar. Others, however, especially in the western portion of this area, report that bees suffered severely from the cold wave in March and that many colonies died of starvation, with many others requiring feeding. Bees are breeding up rapidly, working on maple and other blossoms.

Northeastern States—In New York, outdoor-packed bees appear to be in good condition, although in a few cases hives were reported damaged by the very heavy weight of snow banks during recent weeks. Honey is moving slowly, though some beekeepers report that demand has been stimulated during the past few weeks by the prevalence of colds and the approach of the Jewish holidays. Sales reported of white clover, ton lots, 5-6½c; 60s, 7½c; small pails, 10-12c per lb.; light amber clover, ton lots, 4½-5c per lb. Buckwheat, 60s, 4½-5¾c; small pails, 10c per lb. No. 1 to fancy white clover comb reported sold at $2.50-3.00 per case; amber, $2.25 per case. Beeswax is being sold at 19c per lb. cash, and 20c per lb. in trade. In Pennsylvania, bees have generally wintered

well except that some are short of stores and will have to be fed. Clover looks good following the abundance of moisture. Honey prices show little change, but sales are few.

Summary—It has been much warmer during this period on the Pacific Coast and throughout much of the central and plains states, though relatively cool over the East and part of the South. Rainfall has been lacking in the West and southeast but moderately heavy in the eastern and central states. Bees have now generally been removed from cellars, often later than customary, and outdoor packed bees have now been examined. Losses appear to be heavier than anticipated earlier, especially in the mountain states and other areas where bees suffered long confinement on poor stores. Feeding has been necessary in a great many places. It appears likely that lack of money will prevent beekeepers making up winter losses through package bees to as great an extent as usual. Precipitation has been sufficiently heavy so that honey plants appear to be in fairly

(Continued on page 273.)

Monthly Report of Honey Producers

Early in April we sent the following question to honey producers: 1. What is your estimate, revised to date, of the amount of last year's honey crop not yet sold in your locality? Give answer in per cent. 2. At what price has honey been sold, or contracted for, if any, in large lots (carload or less) in your locality during the past month for (a) extracted honey, per lb.; (b) comb honey, fancy and No. 1, per case? 3. What are prices when sold to grocers in case lots of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per case? 4. What is the retail price to consumers in your locality of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per section? 5. How is honey now moving on the market in your locality? Give answer in one word, as slow, fair, or rapid. 6. What is the percentage of winter and spring loss of colonies in your locality? Give answer in per cent. 7. What is the condition of the honey plants at this time in your locality as compared with the average? Give answer in per cent. 8. What is the condition of the colonies at this time as compared with normal? Give answer in per cent. The answers are tabulated as follows:

State. Name	1931 carry-over.	Large lots. Ex.	Large lots. Comb.	Grocers. Ex.	Grocers. Comb.	Retail. Ex.	Retail. Comb.	Move-ment.	Pct. Cond. winter loss.	Pct. Cond. hon. plants.	Cond. colo.
Ala. (J. M. Cutts)	40			.45		.65	.20	Fair	4	50	75
Ark. (J. Johnson)	25				3.60			Slow	30	70	70
Ark. (J. V. Ormond)	2									100	100
B. C. (A. W. Finlay)	15			.65		.85		Slow	25	100	80
Calif. (L. L. Andrews)	2	.05				.65	.17	Fair	15	50	85
Calif. (F. J. Edwards)	3			.45	3.88	.65	.22	Fair	8	100	95
Colo. (O. E. Adcock)	0	.05½		.42½		.49		Slow	10	75	75
Colo. (J. A. Green)	20			.50	2.40	.65	.15	Slow	20	100	90
Conn. (Allen Latham)	15				4.75	.80	.28	Fair	6	100	90
Conn. (A. W. Yates)	0			.70	5.00	1.00	.30	Fair		100	100
Fla. (C. C. Cook)	75			.45		.55		Slow	10	90	90
Fla. (Harry Hewitt)	0					.70		Slow	2	5	50
Ga. (J. J. Wilder)	25	.04½		.35		.50		Slow	2	75	60
Ill. (A. L. Kildow)	20	.05			3.00	.50	.17	Slow	10	90	80
Ind. (T. C. Johnson)				.65	3.00	.80	.15	Slow	5	100	100
Ind. (E. S. Miller)	25			.60	3.60	.75	.20	Slow	15	90	90
Iowa. (F. Coverdale)	10			.35	4.00	.40	.20	Fair	1	70	100
Me. (O. B. Griffin)	0				6.00	1.50	.35	Slow		95	
Md. (S. G. Crocker)	9			.75	4.00	1.00	.30	Slow	5	100	75
Mich. (F. Markham)	10	.07				.75	.20	Fair	2	50	100
Mich. (E. D. Townsend)	5	.07						Fair			
Minn. (F. W. Ray)	10	.05½		.45		.55		Slow	10	95	100
Minn. (B. L. Morehouse)	20	.06		.50		.60	.15	Fair	5	75	110
Nebr. (J. H. Wagner)	20	.05½	2.10	.50	2.40	.60	.12	Slow	10	90	90
Nev. (E. G. Norton)	40	.04½		.30		.50		Slow	8	80	90
Nev. (G. G. Schweis)				.48	2.63	.75	.20	Fair	5	100	90
N. J. (E. G. Carr)						1.00	.30	Slow	5	80	90
N. Y. (Adams & Myers)	0	.05½				.68	.20	Fair	0	100	100
N. Y. (Geo. B. Howe)						.75	.20	Fair		100	
N. Y. (F. W. Lesser)	5	.06½	3.00			.50	.20	Fair	3	90	90
N. C. (C. S. Baumgarner)	0			.75		1.00	.25	Slow	10	100	100
N. C. (W. J. Martin)	20			.60		.85	.25	Slow	5	100	100
N. D. (Chas. Engle)	5	.05½		.45	3.60	.55	.20	Slow	10	75	90
Ohio. (F. Leininger)	0							Fair	3	90	100
Ohio. (J. F. Moore)	0	.06½		.50	3.00	.75	.20	Slow	5	100	100
Ohio. (R. D. Hiatt)	10			.60	3.60	.85	.20	Slow		90	95
Okla. (C. F. Stiles)				.60	3.25	.85	.18	Fair	20	90	85
Ore. (H. A. Scullen)	40			.38½		.49		Slow	10	100	90
Pa. (D. C. Gilham)	3			.75	4.50	1.00	.25	Slow	7	100	90
Pa. (H. B. Kirk)	0	.10	3.75	.75	4.50	1.00	.30	Fair	2	95	50
S. C. (E. S. Prevost)	5			.55		.68		Slow	15	90	90
Tenn. (J. M. Buchanan)	0					1.00	.25	Slow	2	75	90
Tenn. (W. L. Walling)	0			1.00		1.25		Slow	5	75	90
Texas. (T. A. Bowden)	5			.50		.60		Slow	35	50	40
Texas. (J. N. Mayes)	5	.04¾		.45				Slow	10	100	90
Texas. (H. B. Parks)	0			.50		.65		Slow	4	80	90
Utah. (M. A. Gill)				.30	2.75	.40	.18	Fair	10	85	80
Vt. (P. Crane)	5			.70	4.12	1.00	.27	Slow	5	85	95
Wash. (W. L. Cox)									20	100	
Wash. (G. W. B. Saxton)	0			.37½				Fair	4	100	100
Wis. (N. E. France)	0					.65	.22	Fair	5	80	90
Wis. (E. H. Hanselman)	0	.05½	3.50		3.75	.60		Slow	20	50	75
Wis. (J. Gwin)	7½	.07		.45		.67		Fair	10	75	70
Wyo. (E. C. Reed)	0			.40		.50		Fair	15	75	90

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40c EACH

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All bees are shipped on Standard Hoffman frame of brood and honey, prompt and efficient service, safe arrival guaranteed, and a health certificate with each shipment. All loss will be immediately replaced upon receipt of bad-order report signed by express agent. Shipping season starts April 1st. Orders booked with 10% down, balance at shipping time.

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Distributor's Bargain Page

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60 5-lb. pkgs. Med. Brood Foundation, 8 9/10x16¾, $2.40 per pkg. of 5 lbs.
30 5-lb. pkgs. Medium Brood Wired Foundation, 8⅛x16¾, $2.50 per pkg. of 5 lbs.
17 pkgs. 10-fr. hive bodies with split bottom-bar frames, $4 per pkg. of 5.
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45 pkgs. Hoffman frames split bottom-bar, in 100's, $3.50 per pkg.
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Crate of 5 supers, 8-fr. for 4x5x1⅜" sections, complete, $4.00 per crate, shipping weight, 45 lbs.
Crate of 5 8-fr. metal covers with inner covers, $3.75. Ship. wt. 42 lbs.
Crate of 5 8-fr. all-wood covers, $2.00. Shipping weight, 35 lbs.
Crate of 5 8-fr. bottom-boards, $2.00. Shipping weight, 30 lbs.
90 Danzenbaker brood frames, $2.75 for the lot. Shipping weight, 34 lbs.
Danzenbaker foundation, 6½x16. 7 lbs. medium brood, 65c per lb. 11 lbs. light brood, 65c per lb.
1 Buckeye hive, ⅜-in. sides, complete, $4.75. Shipping wt. 43 lbs.
All items listed f. o. b. Middlebury, Vermont.

Send Order for the Following to
A. W. Yates, Inc.
15 Chapman St., Hartford, Conn.

50—22533—"P" supers, 5s, $4.00, shop worn.
25—22532—"P" supers, 1s, 80c, shop worn.
4—210—Frame-wiring device, $1.50, shop worn.
100—2530—"P" section holders, $4.00.
100—2833—"P" fences (old style).
1000—"P" cartons.
1—7227—"Life of the Bee" (Maeterlinck), $1.50.
These items are all received from factory but slightly shop worn.

Send Order for the Following to
The A. I. Root Co. of Iowa
Council Bluffs Iowa.

54 Western bee feeders, 10c each
13 Galvanized bee feeders, 10c each.
12 Thale bee feeders, 10c each.
5 Woodman sections fixers, $1 each.
15 Simplicity bee smokers, 48c each.
2 Honey graders, 98c each.
57 Dixie bee brushes, 10c each.
1500 Hive Hooks with screws, 10, 15c.

HONEY MARKETS

(Continued from page 269.)

good shape, though last year's drouth sharply lessened the number of plants. Demand for honey has been irregular, as always, but a number of beekeepers have found that demand has increased during this period, both locally and for large lots, with numerous inquiries being received. On the other hand, of course, many beekeepers advise that sales have been slow with considerable left on hand. A substantial carry-over appears certain in the southeastern states and in spotted sections elsewhere, but many beekeepers are completely sold out. Stocks of comb honey are even shorter than those of extracted. Demand from abroad has lessened because of the British preferential tariff and other foreign restrictions.

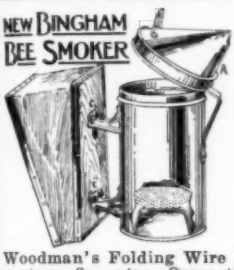
MILLER'S STRAIN ITALIAN QUEEN BEES FOR SALE

From best breeders; gentle, best honey getters; hardy; northern bred; not inclined to swarm; three-banded; thirty-seven years queen breeding. Satisfaction guaranteed.

1 untested, 75c; 6 for $4.00; 1 select untested, $1.00; 6 for $5.00.

I. F. MILLER

183 Valley Street. Brookville, Pa.



Treat yourself to a new veil and smoker each season as you are entitled to this satisfaction in your work. They are guaranteed to please you. If your dealer can't supply you, write to us.

Woodman's Folding Wire Bee Veil, 75c each, postage 8c extra. Some times known as the 100% veil. At a meeting of 36 Bee Inspectors when given their choice of veils, all chose Woodman's.

Woodman's Bingham Bee Smokers, Smoke Engine, 4 x 7 stove size, now priced at $1.00. With shield at $1.25. Shipping weight, 2½ lbs., postage extra. On the market more than 50 years.

Send for Woodman's printed matter on 8 sizes and styles of Honey Extractors ranging in price from $7.50 to $40.00; and general extracting equipment.

A. G. WOODMAN COMPANY, Manufacturers, Grand Rapids, Michigan

Lowest "Repression" Prices Ever Known

LOWER EXPRESS RATES MAY 15

Berry's Reliable Packages and Queen Bees

PURE 3-BANDED ITALIANS ONLY

	2-lb. pkgs.	3-lb. pkgs.	4-lb. pkgs.
1 to 10 pkgs. with sel. queens.....	$2.00 each.	$2.50 each.	$3.00 each.
10 to 20 pkgs. with sel. queens.....	1.75 each.	2.25 each.	2.75 each.
20 to 50 pkgs. with sel. queens.....	1.65 each.	2.15 each.	2.65 each.
50 pkgs. and up	1.50 each.	2.00 each.	2.50 each.

After May 15, 25c each package less.

Along with the ⅓ lower express rates these prices make Berry's Reliable Quality Bees the lowest in price ever known. You can not afford to pass them up at this price. On queenless packages, deduct 25c each package.

All our packages are 10 to 25% overweight and contain virtually all lately hatched baby bees just right for service. Nothing pays as well as the adding of a few of these young bees to your wintered-over colonies just at the opening of the honey flow.

WARRANTED PURELY MATED ITALIAN QUEENS, NOW, 60c EACH. AFTER MAY 15th: 50c EACH; 3 FOR $1.25, AND $35.00 FOR 100.

Wings of queens clipped when wanted and free of charge. All queens in packages and otherwise are select quality. None are shipped that we ourselves would not use. The culls we destroy. We have no disease and a Certificate of Health accompanies all shipments.

M. C. Berry & Co., Box 697, Montgomery, Alabama

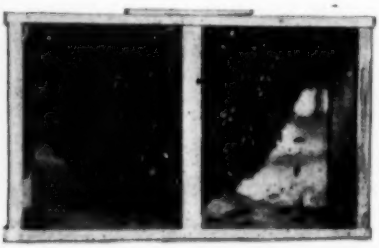
38 Years Breeding Only the Best.

We've Produced Package Bees & Queens Since 1912. We Are Ready to Supply You in 1932

FROM QUEENS TO CAGES YOU WILL FIND THEM GOOD.

Young pure three-banded Italians from colonies run especially for the production of young bees, and select 1932 laying queens from gentle honey-producing stock fresh caged and placed in packages just before they are shipped. It makes a difference.

SAFE ARRIVAL AND PERFECT SATISFACTION GUARANTEED.
APIARY ACCREDITED BY THE ALABAMA DEPT. OF AGRICULTURE.



With queen.	2 lbs.	3 lbs.
1 to 5 pkgs...	$2.50 ea.	$3.15 ea.
6 to 15 pkgs..	2.25 ea.	2.95 ea.
16 to 50 pkgs.	2.15 ea.	2.85 ea.
100 pkgs	2.00 ea.	2.70 ea.

For larger packages, add 75c a lb. Queenless packages, 75c each less. Shipping season starts April 5th.

Select young laying queens, 75c each; 6 to 14, 70c each; 15 or more, 65c each.

ORDER NOW AND LET US GET EVERYTHING ARRANGED BEFORE THE BUSY SEASON.

W. D. ACHORD, FITZPATRICK, ALABAMA

Bees and Queens

A strain of three-banded Italians, with an unsurpassed record for honey gathering in all parts of the U. S. and Canada.

2-lb. package with queen, $1.75
3-lb. package with queen, $2.20

Write for prices on 100 or more packages

For nearly 20 years I have shipped bees and queens to all sections of U. S. and Canada. Many of my customers seem like personal friends. I am in my life's work and will expect to do business with you and your friends again. Three-fourths of my last season's output went to old customers.

My guarantee: Safe delivery, prompt shipment, full weight, satisfaction.

You can pay more but you can not get better bees or more honest service.

H. E. GRAHAM

702 East 23rd Street, CAMERON, TEXAS

Hilbert Method

Cut Comb Honey

Honey Hunks are the new wonder packages and will mean more to you in the sales of all honey than anything ever before introduced.

Get our prices on modern draining equipment and packages.

JAMES E. HILBERT
Rt. No. 5,
Traverse City, Mich.

PATENTS Pat. Counsel of The A. I. Root Co. Practice in Pat. Off. & Court.
CHAS. J. WILLIAMSON
MacLachlan Bldg. Washington, D. C.

"My Father's Rupture Appliance Was Kept by 3,000,000 People AFTER 10 Days Free Trial"—*Harold Brooks*

C. E. Brooks invented his remarkable "Air-Cushion" Appliance 31 years ago. It brought him safety, comfort and the results he had long desired. Today more than 3 million men, women and children have purchased a Brooks after first trying it at home for 10 days. The trial cost them nothing and the same 10-day Free Trial is yours for the asking. You owe it to yourself to *Write Now* for Free Trial details, also Free Brochure, both sent in plain, sealed envelope. *Act Now!*

C. E. Brooks, Inventor BROOKS APPLIANCE CO. 448-D State Street, Marshall, Mich.

Have You Seen the New
POULTRY, GARDEN AND HOME

magazine? Readers say it's the best—the most interesting magazine in its field. You'll say so, too, or we'll gladly refund your money. We'll send you a six months' trial subscription for just 25c. Or, for 50c we'll send you a full year's subscription and also mail you free a copy of "Quality Eggs for Hatchery Use," or "How to Raise Your Baby Chicks." These are extraordinarily helpful and enlightening books, and should be in the library of every poultry raiser. Mention book wanted with order. Address

POULTRY, GARDEN AND HOME,
Dayton, Ohio.

NEW LOW PRICES PETTIT'S BEES FOR BLOSSOMS AND HONEY

Pettit's Five-pound Orchard Package has several advantages over other methods of supplying bees for blossoms. It contains a large quantity of young vigorous workers and a young queen—a regular strong swarm ready for hiving and going to work. Or the shipping container may be wrapped and used as a hive without other equipment. It has proved to be so dependable and the Pettit Service so reliable that growers used 500 of them in 1930 and 1,000 in 1931.

Experiments have shown that wintered colonies may not contain the volume of bees necessary for effective work in the uncertain weather of blossom time; but where these are on hand they may be built up by adding young bees from Pettit's Combless Packages purchased without queens.

The following prices are for cash before shipping and complete satisfaction is guaranteed.

NEW LOW 1932 PRICES WITH YOUNG ITALIAN QUEENS

Size of order.	5-lb. Orch. pkg.	4-lb. pkg.	3-lb. pkg.	2-lb. pkg.
1-9 pkgs.	$4.00	$3.00	$2.50	$2.00
10 or more	3.50	2.75	2.25	1.75

For bees without queens deduct 50c per package. Small orders sent parcel post if postage added. Canadian money taken at par.

MORLEY PETTIT, Albany, Ga.

Mott's Northern-bred Italian Queens

PRACTICALLY NON-SWARMING

Guaranteed purely mated or a free queen, means tested in the end.

May, $1.00; 2 or more, 90c each. June, $1.00; 2, $1.75; 6, $5.00; 12, $9.25; 100, $65.00. Select tested, $2.00. Virgins, 50c each.

Free list with testimonials. Satisfaction guaranteed.

E. E. MOTT & SON, GLENWOOD, MICH.

GET OUR PRICES

BEFORE BUYING BEE SUPPLIES

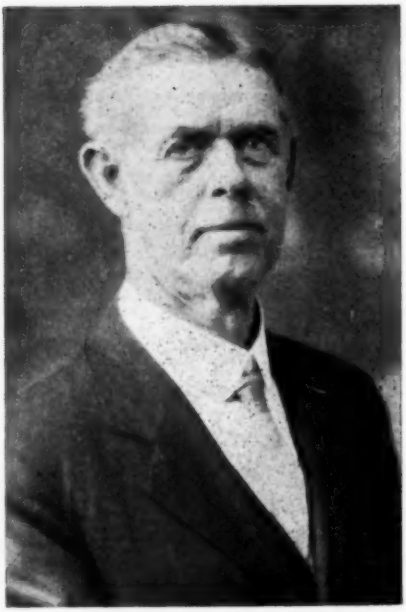
For your convenience we have included a coupon with this ad. Use it or write us a letter.

OUR GUARANTEE—All goods purchased may be returned if unsatisfactory and money cheerfully refunded. No questions asked.

OUR SERVICE—While we ship all over the country, we can give special service to those located in the East—New York, Penn., New England, and Atlantic Seaboard states.

W. T. FALCONER MFG. CO.
FALCONER, N. Y.

W. T. Falconer Mfg. Co., Falconer, N. Y.
Gentlemen: Without obligation on my part please quote prices. I have..... colonies.
.....Hives .....Sections
..... Supers .....Br. Fdn.
.....Frames .....Super Fdn.
.....Bodies .....
Name .....
Address .....
Town ..... State.....



Dadant's Crimp-Wired Foundation Gives Your Combs Wonderful Support

"Fastening the Steel Frame Hooks of the Crimped Wires between the top bar and the wedge gives all the resistance needed to insure against heat damage and your test of suspending a 40-pound hive with ordinary fastening at the top bar is a real test of supporting strength."

R. H. POLK, Georgia.

A STAR STATEMENT

These statements about Dadant's Foundations, come freely from the heart of the beekeeper. We have not bought them, with either money or supplies, and we guarantee them to be the actual statement of the user.

—DADANT & SONS.

Real Comb Strength

---and easy to get

A sheet of Dadant's Crimp-Wired Foundation and a Lewis Slotted Bottom Bar Frame go together so quickly that in a short time foundation and frames may be made ready to use. A quick, safe job, and you get real comb strength you can not get any other way.

It is impossible for the beginner to go wrong with Dadant's Crimp-Wired Foundation. "Out of a hundred frames drawn out all but three were fastened entirely to the bottom, top and sides of the frame," says Archie M. Jones, Smith Falls, Ontario. "Combs are straight and as perfect as can be desired and certainly a pleasing sight." (C. W. Fitzsimmons, Mason City, Iowa.)

And when you have had a chance to compare, you will feel like J. C. Cole, of Liberty, Texas, who says: "I have received a number of catalogs with prices and studied them carefully to save money, but I find, quality considered, you have them all beat and that there is nothing to take the place of Dadant's Crimp-Wired Foundation in Slotted Bottom Bar Frames."

SUCH BEAUTIFUL COMBS

Combs that are strong and true, with the real old bee smell and flavor. "I have found combs from Dadant's Foundation in a number of apiaries and, though most of these beekeepers are beginners, the combs were second to none." D. Chalmers, Provincial Apiary Inspector, Strathcona, Alberta.

Be sure to get our 1932 catalog.
Prices lower than ever.

Dadant & Sons, Hamilton, Ill.

Makers of Famous Foundations
Crimp-Wired—Plain—Surplus

Pure Beeswax

In all Dadant's Foundation the wax is tested so you get absolutely pure beeswax, just as your bees make it.

DADANT'S FOUNDATION
CHOICE OF EXPERT BEEKEEPERS

Gleanings in Bee Culture
MAY, 1932

Seeking Better Pasture

In these days of automobiles and good roads, it is no longer necessary to keep the bees in a locality in which the honey plants are in poor condition. Furthermore, with up-to-date management one can operate an apiary at a distance with only a few visits during the season. By a little scouting at this time, it is often possible to find locations where honey plants are more abundant. While moving apiaries is an unpleasant task, it is sometimes the most profitable work one can do with the bees in a region where the condition of the honey plants is spotted.

Reduced Express Rates on Package Bees

After several years of negotiations, the express companies have finally yielded to the requests by beekeepers for a change in classification on shipments of live bees. Effective May 16, the present rate of one-and-one-half times first class will be reduced to single first class rate. While this change is being made too late to affect the major portion of this year's shipments, the later purchasers will have the advantage of the lower rate this year. Arrangements have been made for the same classification in Canada, also effective on May 16, for international shipments of live bees. This reduction in rates, long overdue, was made in compliance with persistent requests through a committee of shippers headed by Mr. Kenneth Hawkins, Watertown, Wisconsin. The present low prices on package bees, together with the lower express rates, will no doubt stimulate a greater use of packages in the North.

Early Brood Rearing Moderate in Extent

The cold weather of March and the fore part of April, throughout most of the country east of the Rocky Mountains, has retarded early brood rearing. Coming as it did in the midst of the period of heavy brood rearing in the South, it has interfered with the production of package bees and queens. In the North, it has been a distinct advantage. After such a mild winter, there was great danger of heavy brood rearing in March and April that would have resulted in depleted stores and a great army of workers too early for the main honey flow.

Colonies should be in better condition in June because of the delay in heavy brood rearing until late April and May than if they had gone ahead full speed in March and April. In much of the country, the colonies came through the winter with so much vitality that it was not necessary to rear brood early to replace bees dying from old age. In addition to this, the honey plants have been held back so that the chances of favorable weather during the blooming period are much better than if they had bloomed earlier.

In this connection, it is difficult for beekeepers in the clover region to realize the difficulties encountered by beekeepers in other regions in preparing their colonies for the main honey flow. In the clover region, well-wintered colonies that are properly supplied with stores, reached their peak of spring brood rearing at about the right time for the resulting bees to take advantage of the main honey flow. In many localities, especially in the South, colonies build up to great strength in early spring only to have a great horde of workers during a long period of dearth of nectar. In other words, the harvest is not ready when the great army of harvest hands are ready for the job. In some cases the main honey flow occurs a month or more after the peak of population has been reached in the spring, thus making it difficult to hold up the strength of the colonies and have them ready for the main honey flow. Those portions of the South in which this condition exists, are eminently suited for production of package bees. It is in just such localities that the package-bee business has developed so rapidly during recent years. In some cases the colonies from which package bees are taken have ample time again to build up to full strength in time for the main honey flow of the locality.

Panic Prices on Sugar

There is at least some consolation in the fact that prices on extracted honey are holding up better than prices of sugar. During a recent spell of weakness, the price of raw sugar in New York and Philadelphia dropped from ¾ of a cent a pound to .62 cent per pound. The price on foreign refined sugar in New York City went as low as 1.62 cents per pound. After adding the duty the price was around 3.6 cents per pound. The duty of about 2 cents per pound has not prevented the dumping of large quantities of refined sugar from foreign countries while domestic refineries are closed down or running on short time.

Whether we like it or not, the price of sugar is bound to influence the price of honey to a large extent, especially extracted honey. From the viewpoint of honey producers, it is certainly to be hoped that the sugar industry will work out some plan whereby more nearly normal prices will be obtained for its product. While we are not exactly in the same boat with the sugar industry, distress in the sugar market means also distress in the honey market.

Curtailment of Inspection Work

The necessity of economy in public expenditures is seriously interfering with the inspection service in several states. In some cases it has been cut off entirely, and in many others it is being greatly reduced. Even in those states in which the inspection service is most firmly established, it will be necessary for beekeepers to put forth every effort to have the work continued, so insistent is the demand for cutting down the expenses of government.

In those states in which the inspection service has been cut off or reduced, American foulbrood will no doubt again spread rapidly and cause serious losses unless beekeepers take the matter of control into their own hands to a greater extent than ever before. In some cases, plans are being made for raising funds locally to pay an authorized state apiary inspector to make a thorough inspection of the locality. In other cases, local beekeepers' associations have already assumed the responsibility of keeping their locality free from disease by volunteer inspection work. Local beekeepers' associations properly organized for a systematic canvass of the entire community can do much in eradicating American foulbrood or preventing its spread.

In addition to all such community activity, there is always the old and surprisingly effective plan of thorough and careful individual inspection, such as is carried on by the more progressive beekeepers in their own apiaries and possibly neighboring apiaries year after year. In many cases, becoming accustomed to having state inspection, has resulted in beekeepers depending upon the state to protect them from disease instead of going after it "hammer and tongs" themselves. Apiary inspection has rendered valuable service in teaching beekeepers how to detect the disease when it first makes it appearance and how to get rid of it. The necessity for economy may now compel beekeepers to utilize more fully the information thus disseminated by the inspectors.

Disease is usually easily detected in the spring when stores are lowest and brood-rearing is being carried on rapidly. After first finding and destroying the combs of colonies that have died of American foulbrood during the winter or early spring as well as any that may still be alive but greatly weakened, a careful search should be made as soon as bees can safely be handled without robbing, for any in which the disease may have just recently made its appearance. If this careful inspection is postponed until in the midst of the main honey flow, it is often difficult to find the disease.

Sweet Clover for Pasture

The use of sweet clover for pasture has so greatly increased in recent years that the Bureau of the Census made this a separate item in the 1930 census figures. According to these figures, the total acreage of sweet clover for pasture for the United States in 1930 was 1,758,337. North Dakota leads the list of states with 238,917 acres. The figures for the various states are as follows:

Alabama, 4,006; Arizona, 673; Arkansas, 3,823; California, 16,679; Colorado, 29,952; Connecticut, 809; Florida, 138; Idaho, 7,124; Illinois, 135,310; Indiana, 51,250; Iowa, 159,915; Kansas, 153,910; Kentucky, 13,601; Louisiana, 992; Maine, 56; Maryland, 3,653; Massachusetts, 605; Michigan, 59,694; Minnesota, 147,903; Mississippi, 5,099; Missouri, 61,145; Montana, 30,583; Nebraska, 192,116; Nevada,

746; New Hampshire, 325; New Jersey, 1,925; New Mexico, 1,510; New York, 23,444; North Carolina, 5,010; North Dakota, 238,917; Ohio, 76,482; Oklahoma, 69,052; Oregon, 3,562; Pennsylvania, 13,181; Rhode Island, 95; South Carolina, 1,193; South Dakota, 133,384; Tennessee, 7,938; Texas, 10,914; Utah, 2,559; Vermont, 708; Virginia, 6,484; Washington, 5,362; West Virginia 1,360; Wisconsin, 68,699; Wyoming, 6,451.

Forced Supersedure for Swarm Control

The excellent method of swarm control worked out by Herman Rauchfuss and his sons in Colorado and Wyoming, has been mentioned several times within recent years in this journal. It is especially adapted to localities having a long honey flow, such as that from sweet clover and alfalfa. With certain modifications as to the time of application, it should work well in other localities, and it can be adapted to the production of extracted honey. It was described in detail by the late F. C. Rauchfuss in the May, 1921, issue of Gleanings in Bee Culture. Briefly, the method is as follows:

The colonies are wintered in two stories, the upper one being well provisioned with honey in order that they may build up rapidly in the spring. At the beginning of the main honey flow, the beekeeper and his helper take to the apiary a load of prepared comb-honey supers, together with as many inner covers as there are colonies to be treated. Each inner cover has the escape hole open except that a piece of queen-excluding zinc is tacked over it. One operator lifts up the upper story while the other places on the lower story one or two comb-honey supers with the prepared inner cover on top. The former upper story is then let down in place on top of this inner cover. Thus the two brood-chambers are separated by one or two comb-honey supers and the inner cover, but the bees can pass from one to the other through the queen-excluding zinc over the hole in the inner cover. This completes the first operation.

Eight days later a second visit is made. This time as many ripe queen cells are taken along as there are colonies in the apiary, the cells being, of course, from eggs laid by the queen used as breeder. An extra bottom and cover for each colony to be treated is needed at this visit, since in each colony the chamber containing the queen is to be taken away, supplied with a bottom and a cover, and set close beside the original colony.

Instead of taking time to find the queen, a comb is taken from the middle of the upper chamber and examined for young brood. If young brood is present, the queen is in the upper chamber, so it is the one to be taken away. If no young brood is present, the queen is in the lower chamber, so it is taken away and the other left in place on the established stand. The combs in the now queenless chamber on the established stand are then examined for queen cells, all of which are destroyed, and a select cell from the breeder is inserted. The comb-honey supers are then put back in place, another added if needed and the job is done. Ten or twelve days later, a quick examination is made to see if the young queens are laying. As a rule, no further attention is necessary to prevent swarming.

The colony containing the old queen, which was greatly reduced in strength by the field bees returning to the old stand, soon gains in strength, and, if the honey flow is long, it may be given supers later; but during a short honey flow some of the bees may be shaken from this colony to strengthen the colony that is working in the supers. The colony with the old queen is then so managed that the combs will be well filled with honey with but little brood at the close of the honey flow, when it is to be set back in place on the brood chamber of the established colony, after killing the old queen, to supply an abundance of honey for fall, winter and spring. Or, if there is no disease in the apiary, several of these chambers containing the old queens can be tiered up on a new stand so that the field bees will return to the colonies working in the supers. All but one of the queens will be killed by the bees, and the combs should be filled with honey ready to be put back on the established colonies after the supers are taken off.

The method involves but little labor, practically prevents all swarming, results in improving the stock since the colonies are requeened with young queens from the breeder, and there is no disturbance by making artificial swarms or by requeening during the best part of the honey flow. In some localities in the East, the operation may be carried out during fruit or dandelion bloom so the young queen will begin to lay at about the beginning of the main honey flow.

Baby Nuclei for Mating Queens

Mel Pritchard

Some of Their Advantages and Disadvantages. How They Are Used to Supplement Larger Nuclei

In the May, 1930, issue of Gleanings in Bee Culture, Jay Smith gave a description of the small mating boxes used by Allen Latham. This was especially interesting to me, since I had tried something similar about five years ago. I had only about a dozen boxes and they seemed to work fine, although I had trouble in making them up. I started them with virgins, and let most of them get away. The covers with combs attached were harder to get in place than flat covers.

During the winter following the reading of that article, I made 150 boxes with an added arrangement on the inside of the cover in which I could cage the virgin, then after the bees were installed and the cover closed she could be released by moving a slide on the outside. Fig. 1 shows these boxes in different positions. The one at the left shows the cage closed. The next one to the right shows the cage open. When the box is closed and the cage is open, the lever is brought close to the edge of the cover as shown on the two boxes to the right.

These boxes are 4″ by 6″ and 4″ deep. In one end, near the top, is a one-inch hole covered with wire cloth. This is for ventilation while the bees are shut in. In the other end is a ⅜″ hole for the entrance. The division board feeder is made fast to one side. The frame fastened to the cover holds a piece of comb 2″ by 4″.

When starting nuclei in these boxes, the entrance is closed with a cork, and the feeder is filled with syrup. This is made thick by dissolving sugar in boiling water. It is poured into the feeders while warm. After it gets cold, it is thick enough that it will not slop out when the boxes are being moved.

Making Up Baby Nuclei

Bees are shaken into a screened hive body and the virgins put into the cages. Then the bees are wet by pouring water through the screen as described in the April issue on page 217. A large spoonful (200 to 300 bees) is dipped into each box, the cover put on, and the virgin released. The boxes are then put into racks (Fig. 3) and carried into a cool basement under the apiary house. Here they are left 70 to 80 hours, then put out on the stakes. These stakes have a cleat 4″ below the top. The box rests on this cleat. A piece of building paper is folded over it and both box and paper held in place with a cord as shown in Fig. 2. The paper used for covering the boxes is sold under the trade name Sisalkraft. It is tough, pliable and waterproof. It is a light brown color as it comes from the roll, but bleaches to nearly white after being exposed to sun and rain for a few days. I find that it is best to put the boxes out late in the afternoon and release the bees after sunset.

When the queens are found to be laying they are caged, and the boxes taken back to the apiary house. We next clean

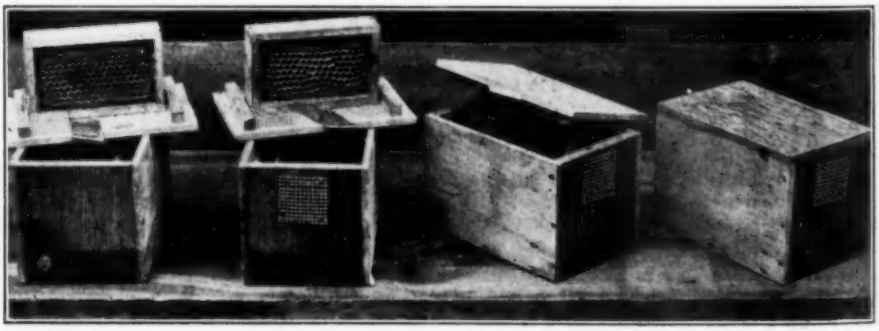


Fig. 1.—Nucleus boxes. These are equipped with a small comb, built-in feeder, built-in queen cage and ventilator.

Fig. 2.—Stakes are set in the mating yard for mounting the little boxes containing the baby nuclei. Note the cover made of tough building paper.

the boxes of bees, and either wash the eggs out of the combs or leave them in the basement to chill so they will not hatch when given to another installment of bees. If this is not done, the queen following would have no place to lay, the frame being filled with brood. This would cause her with the bees to swarm out. I found this condition to be one cause of the excessive swarming out that we had when using twin-baby-mating boxes.

Great Saving of Labor, Bees and Feed

This method has some advantages over the larger nuclei. Only a small amount of time, bees or feed are used in starting them. I had planned that, if I used them on a large scale, I would give them no attention after they were released until the queens were laying. But since this was an experiment, I did examine them several times during this interval. During July and the fore part of August, some boxes were found to be deserted soon after being released, a few were robbed out, and some virgins were lost at mating time. During this period about 80 per cent of them produced laying queens. Earlier and later in the season when conditions were less favorable, the loss was so big that I decided they were not practicable to use except as a supplement to the larger nuclei.

Cells Would be Well Protected in Small Boxes

I have not tried using cells when starting these boxes, as Allen Latham does, but believe that they would be better protected in them than in larger nuclei. These small boxes can be kept in a building away from cold rains and night air until the virgins have emerged, and, since there is no other brood in the box, the bees would form in a cluster around the cell. I hope to give this a trial this coming season.

I find another use for these boxes in disposing of the small clusters of bees with a virgin queen that we find almost every day in the nuclei yard. I do not know where these bees come from, but I do know that they are a nuisance. They move from one place to another several times in a day, and, while they are in the air, other virgins on their mating flight join them instead of returning to their own nuclei.

Hiving these bees in one of these boxes is quickly done, but the virgin found with them often is a cripple and not able to make long flights which may account for the little cluster having been formed. We know that bees will collect around any queen they find outside of a hive. I sometimes use these bees to mate a queen, if I

Fig. 3.—Rack for carrying 30 baby nuclei for distributing or collecting, and for carrying them into the cellar.

have time to take away their virgin and introduce another, but the object in hiving them is to get them out of the yard.

Many Visitors Bring Many Useful Ideas

To operate the yard with only one helper keeps us moving at a lively pace. Mowing weeds and keeping the apiary cleaned up is often neglected. However, I always gladly take time to meet our many visiting beekeepers. Coming, as they do, from all parts of the world, they bring ideas, new to us. These visitors with their suggestions have been a big help in building up our system of queen-rearing.

Medina, Ohio.

Management in Comb-Honey Production

W. A. Rowland

How Yield Can Be Greatly Increased by Better Swarm-Control Measures

It is not my intention to lay down methods for the production of comb honey in other parts of the continent having different climate, pasturage, and duration of honey flow, but simply to give the methods we have found best in the conditions existing in the southern part of Ontario where the white honey flow is from clover and alfalfa, characterized by its early commencement and short duration—from three to four weeks.

Comb Honey More Profitable

Considering the advantages in running for comb honey instead of extracted, it is strange that so few turn their attention to it. This increased profit has never been so clearly demonstrated as during last year. The crop here was about 50 per cent of normal—from 25 to 50 pounds of extracted honey per colony. The finest white clover extracted is seeking a market at around six cents per pound (less in some cases), showing a gross return per colony of only $1.50 to $3.00. In the same territory, and under what we consider proper management, our average was slightly over 70 sections per colony, all of which was sold at an average price of 20 cents per section, bringing the gross return per colony around $14.00.

Systematic Attention Essential

Given favorable weather and pasturage, coupled with the necessary colony strength, the production of a maximum crop of comb honey is the direct and natural result of proper systematic attention to exacting details at the right time. In extracted honey, neglect or wrong methods, while certainly diminishing the returns, may not result in absolute loss of crop. The same can not be said of comb-honey production, for, in a short honey flow, swarming, if unchecked, may spell total loss. We clip all queens and find a book record of each hive indispensible.

As a starting point in the annual cycle, let us pick out an average colony as we find it on the appearance of the first clover blossom, which here is usually at the end of the first week in June. We winter in two 10-frame Langstroth brood-chambers to both of which the queen has access until the supers are put on. Examination at this time will show brood in both chambers, twelve or more combs being either completely or partially filled with brood. Usually there are no indications of swarming until after supering, though the colony is examined weekly until this time arrives.

When to Give First Supers

The importance of supering at the right time can not be too strongly stressed. During fruit bloom and in the interval following prior to the clover honey flow, having plenty of room and a comfortable distribution of bees and brood through the two chambers, preparations for swarming are rarely, if ever, made. But reducing to one brood-chamber and packing it with combs filled with brood and bees when supering, will, in practically every hive, bring on swarming preparations in a week or ten days. Suppose we do this a week or ten days before the clover flow has commenced in earnest, what happens? There being no drawn combs in the super (foundation only) and no more honey arriving than is necessary for brood-rearing, the bees do not go up into the super. They remain in the brood-chamber congesting it and bringing about immediate preparations for swarming.

Since removing the queen from the hive is the usual remedy, it becomes necessary to do this just as the honey flow is about commencing, and during the ensuing week of queenlessness the bees do but little work in drawing out the foundation. By the time the period of treatment is over fully one-quarter of the harvest time has gone with nothing in the super, while other colonies have been storing for a week. If, however, the super is put on immediately after the harvest has well started, all the field bees are busy bringing in nectar and comb builders immediately set to work to furnish storage room in the sections. The storing instinct thus becomes a habit. While swarming preparations are just as much a certainty, yet preparations to this end are very much delayed and the super is probably half filled before cells are well started.

When is this proper time? Beekeepers give a rule of 10 days after the appearance of the first clover blossom, but with us here we find this too soon, two weeks after the first blossom being about right. First clover blossoms here generally appear at the end of the first week in June, in which years we have found the best time to super is between June 20 and 24.

Method of Supering

The proper time having arrived, we set off the upper brood-chamber, which was the food-chamber during the winter, and re-arrange the combs of the lower brood-chamber so that it will contain, if possible, nine combs of brood and adhering bees, one comb wholly or partially of empty cells, and the queen. We put in it those combs having the greatest amount of brood and the oldest. The purpose in this is to have no room in the brood-chamber for storing except the one comb of empty cells to give the queen a chance to continue laying. On this prepared brood-chamber place a super of sections.

The rest of the brood and adhering bees, along with the rest of the combs are placed in what was the upper brood-chamber, and a young laying queen is introduced by the cage method. This chamber is provided with a new bottom-board and cover and placed beside the supered colony, facing the same way. The entrance is then contracted. We used to raise these young queens ourselves, but now get them from the South in time for the supering.

Watching for Preparations for Swarming

Seven or eight days later (do not leave it longer) set off the super and give each comb a thorough examination for queen-cells. That word "thorough" can not be emphasized too strongly. The major portion of the bees should be shaken off in front of the hive, and every inch of the comb carefully gone over. Vigilance here or the lack of it, will spell either large or small returns. If queen-cells are being started, as must surely be the case, which contain no eggs or larvae, destroy these. The colony may then be left for another week. If cells containing eggs or larvae are found, these must all be destroyed and the colony must be treated immediately.

It may be truthfully said that you have now arrived at the critical point, that the results of all your labor depend on the method you adopt. Like many others, we at one time had the idea that cutting out queen-cells containing only eggs or very small larvae would deter swarming at least long enough so that, if the next examination was not left longer than six or seven days, the same process could be repeated. Make up your mind that such treatment is useless. Prior to the first attempt at swarming, bees invariably make cells and leave about the time these are being capped, other conditions being favorable, but if thwarted in the first attempt by the destruction of the cells, they do not wait the second time until the cells have reached this degree of completion. They often leave before cells have been more than started; in fact, they could, and do at times, leave before even starting the second lot of cells. The parent colony left behind contains all the essentials requisite for the production of new queens, and unquestionably they know that the harvest will not last forever. The sooner they get away and build up the new colony, the better their chances of future existence. The only time that cutting out queen-cells is likely to be effective in preventing swarming is when the harvest is drawing to a close.

Remedy Applied Depends Upon Several Conditions

What then is the best method to use? Roughly, all swarm-control manipulations fall into two classes, artificial swarming (shaking) and dequeening. Before deciding which one to use, there is just one question that should be taken into consideration, which is, how much longer is the white honey flow likely to last?

Suppose we try the first method and see what happens. All the brood and combs are removed from the brood-chamber, which is now supplied with nine frames of foundation and an empty comb, in front of which most of the bees, together with the queen, are shaken, and the super set on. In our experience, examination one week later will show that the bees have practically deserted the partially filled super on which they have been working during the week previous to the shaking, having concentrated on the work in the brood-chamber. Nor will they return to the super as long as room remains in the brood-chamber for nectar. Since at this stage two weeks or half of the harvest period has gone by, the crop of comb honey, being only the overflow from the brood-chamber, will be small. If the harvest should last six or eight weeks instead of four, the chances for a fair crop by this method would be much better since

the honey would be carried up from the brood-chamber into the sections to make room for the queen, provided she is a good one. But that would not work with us, since after the first three or four weeks of the clover honey flow, buckwheat commences and the sections produced in the latter part of the harvest would be of mixed honey. We can easily understand that when producing extracted honey, with fully drawn combs in the supers, this method is not so objectionable; but in comb-honey production our experience has invariably been a crop much smaller in comparison with another method whereby the storing instinct of the bees is concentrated continuously in the super. This is done by dequeening.

When to Cage the Queen

Having then decided to dequeen, the question is which plan to adopt. Before answering this, we would again want to know how much longer the white honey flow is likely to last. If you have been able to delay swarming until about the latter end of the honey flow, and it is desirable to keep the queen a second year, one of the simplest methods is, place her in a cage between the brood combs for a week, after thoroughly cutting out all cells. At the end of that period, after again thoroughly cutting out all cells, release her. We do this by releasing her among the bees as they are running into the hive after having been shaken off the combs when looking for cells. We do not find further preparation for swarming but, if you try this method at the beginning of or during a long honey flow, you will find that, shortly after the release of the queen, preparations for swarming are again started involving a second treatment. This method is best used near the finish of the white honey flow.

Requeening with Young Laying Queen

Now, let us turn back to our colony under examination. Since the cells in this case appeared one week after supering and there are most likely to be three weeks yet of honey flow to follow, cut out all cells, being careful not to miss any, take away the queen, and replace the super. If the removed queen has gone two seasons or her progeny show any undesirable traits, kill her; but if a desirable queen of one season, introduce her in a nucleus. Leave colony seven or eight days.

Not longer than eight days afterward, cut out all queen-cells, take the young queen from the nucleus in a cage, place the cage in the brood-chamber, and put on the super or supers. The treatment should then be complete and the producing colony is requeened for another year. In our short honey flow we do not find further swarming preparations.

The now queenless nucleus has been on its own for a couple of weeks. Quietly lift it up while the bees from it are afield and shift it to the opposite side of the parent colony, with its entrance turned away a little, thus reinforcing the producing colony with all its fielders; then introduce to it by the cage method the one-year-old queen taken from the parent colony. If, however, you killed the old queen the previous week, select from the parent colony one frame containing the best appearing cell before destroying all others. After removing the queen from the nucleus, give it this frame, thus requeening it and give the parent colony an empty comb in exchange. After the supers are removed two or three weeks later, the nucleus may be united with the producing colony (the better queen of the two being retained) to supply the upper brood-chamber for winter; or it may be used for increase.

Requeening on Sealed Brood

While a quicker form of treatment can be used for colonies preparing to swarm by removing both the queen and brood, shaking most of the bees back into their brood-chamber on a couple of empty combs, leaving them to cluster here for twenty-four hours, at the end of which time the brood-chamber is filled with combs containing only sealed brood, and a young laying queen introduced at once, we have several objections to the method. With an outyard to which only one day a week can be given, it is impossible to find time to go over the colonies a second day. The chief objection, however, is that our colonies being of uniform strength, nearly all commence swarming preparations at the same time and have to be treated all at the same visit. Under those conditions, no colony has enough combs containing only sealed brood to fill the brood-chamber on the second day. Moreover, even though disease has never appeared in the apiary, we can never tell when it may, so we are much averse to shifting brood combs from one colony to another, preferring to maintain each colony as a unit through the season to avoid unknowingly spreading any lurking infection.

Weston, Ontario.

Beekeeping in Germany

Dr. E. F. Phillips

The Provincial Beekeeping Institute at Celle Works Out Beekeeping Problems Peculiar to the Region

One of the most important research institutions for beekeeping in Germany is that at Celle, under the efficient leadership of Dr. Albert Koch. Mrs. Phillips and I had the pleasure of staying in Celle for two nights and a day and of becoming acquainted with Doctor and Mrs. Koch and with the staff of the Institute. A short account of this delightful visit may be of some interest to beekeepers at home, as an indication of the type of work done in such institutions in Germany. I shall not attempt to discuss our delightful visit in the home of Doctor and Mrs. Koch, for it would take a specialist in home economics to do that justice, but I can say that our reception was most cordial and the occasion a most happy one.

The Landesinstitut fuer Bienenforschung at Celle was established in 1927 and is maintained by the Province of Hannover, this being the only provincial beekeeping institute in Germany. This special attention to beekeeping is due to the fact that honey production is so important in the Province, which includes the celebrated Lueneburger Heide, about which I wrote in an earlier story. The building used as a laboratory stands in the grounds of the smaller castle at Celle and was originally built as an orangerie in 1765. The garden of the Institute contains 2.5 hectars of land and is beautifully laid out and maintained. Of course, it was impossible in winter to see its best aspects, but the many plots of nectar and pollen plants maintained for study and observation are neatly kept. Adjacent to the main building is a farm house from the Heath which was moved and re-erected from the old materials and is now used as a museum of the ancient beekeeping of the Heath. Of this museum alone a long story might be written, for it is entrancing to one interested in the history of beekeeping.

Equipment and Personnel

In addition to Doctor Koch, whose work on honey is well known to all students of this interesting food, there is quite a staff. There is the first assistant, Mr. Boerger, who spends a portion of his time at the co-operative organization for the sale of heather honey and honey products, also located at Celle. There are also two technical assistants, a bee master, Mr. Carstens, and a gardener, with an additional gardener in summer. At the time of our visit there were four students, engaged in practical phases of beekeeping work. A stenographer completed the staff.

The building is efficiently divided into offices and laboratories, so that each investigator has a separate room. The lecture room is thoroughly equipped with charts and maps, so that the work may be made clear, these charts being chiefly the work of one of the technical assistants. In the Province of Hannover there is also a beekeeping school at Stade, but the school is maintained by the Kreiz Stade, not by the Province; there is excellent cooperation between the two institutions and no competition. The practical work and teaching at Celle does not conflict with that at Stade. On the second floor

Old building now used as a beekeeping museum at Celle, Germany. This is a type of farm home seen on the Heath.

Mr. Carstens, bee-master at the beekeeping Institute at Celle. The inverted skep is the type used in the Lueneberg Heath.

there is a library of about 1600 volumes of books and journals on beekeeping, most of which were presented to the Institute by the beekeepers' society of Hannover. That was one part of the institution's outfit which I might have been guilty of stealing.

Instead of describing the buildings and arrangements at greater length, it may be better to discuss briefly one phase of the investigational work under way. In doing so I have no wish to anticipate publication of the results of Doctor Koch, for much of the work is unpublished, but the nature of the work may be outlined without anticipation of his results. In order to understand the nature of the work and the reasons back of it, a few words of explanation are needed.

Methods of Detecting Imitations of Honey

For some years past, the German beekeepers have been injured by the extensive sale of Kunsthonig (artificial honey), made by inverting beet sugar into dextrose and levulose by the use of heat and acids. This concoction is then flavored, either by adding a little honey of strong flavor or some artificial flavoring. It is not at all difficult to imagine that the German beekeepers desired some test to distinguish genuine from artificial honey, since both are sold under the name honey. Genuine and artificial honeys differ in many respects, of course, but one of the easiest ways to distinguish them seems to be by the use of the diastase test.

For the benefit of those not familiar with physiological processes, it need only be said that diastase is the mysterious substance (enzyme) which splits starch into the sugar, dextrose, in the digestive process. Diastase occurs in all or at least in most honeys, and, of course, does not occur in artificial honeys which are made by the use of boiling temperatures, for diastase is destroyed by heat. It must further be explained that since sometimes a small amount of genuine honey is added to artificial honey as a flavoring material, a quantitative test for diastase is desired. This quantitative test is one of the problems in which the Celle Institute is much interested.

In the United States, where we are not worried about honey adulterations, we have been inclined to look on diastase in honey as of little importance, and it has not at all worried us if packers of honey

Prof. Albert Koch, director of the beekeeping Institute at Celle.

heat it sufficiently to destroy the diastase. Until a simpler or better method for distinguishing genuine from artificial honey is found, it is natural to expect that German beekeepers will insist on the presence of diastase in all honeys sold as genuine. As is well known, certain shipments of American honeys to Germany were found to be deficient in diastase and this has caused considerable study to be made of honey diastase in the United States, where several excellent papers have appeared on this subject. In this article I shall aim neither to commend nor to condemn the diastase test, so far as its effect on our export honey is concerned, but merely to give the point of view of the German beekeepers. Whether or not we consider it important is immaterial to German beekeepers, and we may at least appreciate the difficulties under which they labor.

Several methods have been published for the quantitative determination of diastase, chiefly by German investigators. Of all these methods, that used in Doctor Koch's laboratory seems to be the most exact and subject to the least variations. He will probably publish this method in the near future, when it can be read by those interested.

On starting from home I put a bottle of honey into the car which had been granulated with fine crystals by the process devised by Doctor Dyce, since I thought it might be of some interest to the investigators over here to see it. Doctor Koch was kind enough to have a test made of this honey for diastase while I was in his laboratory, and I was pleased to learn that while the diastase was weakened by the heating to which the honey had been subjected, there was still just enough to get the honey in under the wire in Germany. The time for the completion of the splitting of added starch was exactly on the time limit set by Doctor Koch and his colleagues. For those familiar with the German methods of testing, I may say that the diastase number was 17 and the time for complete splitting of the starch, 100 minutes. At the same time they ran a test for me of another honey in which the diastase was so strong that complete conversion took place in 17 minutes.

I told Doctor Koch that the honey which I had brought was from white and alsike clover with just a trace of buckwheat, so he ran a pollen analysis. In the honey we found only alsike clover pollen, none from white clover, with just a few grains of buckwheat pollen. I was rather proud of the honey when it was subjected to pollen examination, for it was unusually free of foreign particles. I may say rather confidentially to my American

Entire staff at the Celle Institute in the summer of 1931. Dr. Koch is at the back and Dr. Boerger at the extreme right.

readers that I believe this was due not only to rather clean and careful extraction but primarily to the fact that when the honey was heated, the foreign particles came away with the scum.

Many Beekeepers Make Their Own Hives

If the readers of Gleanings could all have visited the shop of the Institute, I am sure that they would have found it of interest. While in Germany many hives are made in regular factories for that purpose, perhaps the majority are made by the beekeepers themselves. Every student at the Institute must learn to make every part of all the apparatus used in beekeeping. At the Institute they have devised a rather simple type of frame hive opening at the top like American hives, instead of at the back which is a common method in Germany, after the example of the Dzierzon hive. The Institute hive has a wooden frame and is lined with wood but has an outer protection of straw. From the American point of view it seems a bit small, but may be large enough for Heath conditions, as is claimed by the men at the Institute. The students also learn to make and use straw skeps, for that is an integral part of beekeeping on the Heath. In the apiary of the Institute are a number of types of hives used in Germany and also a number of straw skeps.

Honey Sold Co-operatively

Doctor Koch is also largely responsible for the organization and successful maintenance of the co-operative organization for the promotion and sale of heather honey. The chief assistant at the Institute, Mr. Boerger, spends much of his time at the hoveni, as the co-operative is called. Mr. Boerger kindly took us through the co-operative plant and explained their methods of work, although most of the work had ceased when the crop was all delivered in November. We also sampled the products made with heather honey, including three kinds of honey candy and an excellent honey cake. We also tried one of the beverages made of honey but we shall not bring any of that home with us, for the prohibition officers at the port of New York might not approve of such an importation. The hoveni is only recently established but seems to be prospering. Last fall they took in about 10,000 pounds of heather honey, which is, of course, not a large amount, but it is a start in the right direction and they are putting out some interesting and attractive advertising material. The major part of the honey had already been sold but some was still in storage which we sampled.

In addition to an admiration of the work under way at the Institute, one's feeling is one of some surprise that one of the provinces of Germany should find it possible and profitable to maintain so extensive an institution for the study and teaching of bees and honey. This is done, I am assured, because of a keen realization that, not only is honey production important for itself, but that the bees are of vast importance in the pollination of fruits and other agricultural crops. The authorities have come to believe that it is worth while thus to promote beekeeping for the improvement of the agriculture of the Province. Some of those interested in the development of agriculture in the United States might follow this example with profit to all persons concerned.

Munich, Germany.

A Year's Work for the Queen

Dr. William C. Wilson

Number of Offspring from One Mother Aggregates Nearly a Quarter Million During Season

What would be a safe and sane yet ambitious New Year's resolution for a queen to make going into her second summer's work? How many eggs does a good queen lay in a year, or rather, she becomes the mother of how many bees? There is no knowing how many eggs are neglected (are they eaten?) by the nurse bees.

I recently made the statement that 125 colonies of bees send back to the soil each year two tons of dead bees, equal to one ton of moisture free bonemeal of high fertilizer value. What is your first reaction to that statement? Too high? Visionary? Let's see. If each colony produces 32 pounds of bees each twelve months, that

will make even two tons. I will raise that estimate to 40 pounds for each colony, or two tons for each 100 colonies.

I live in the latitude of Denver, St. Louis and Washington. Bees are located on river-bottom farm-land where clovers give very little surplus, but there is some nectar in the fields almost every week all summer. The main crop comes from heartsease, beginning August 1 and lasting six weeks. Bees are wintered in two stories, and are run for extracted honey. The hives are full of bees in early June and again in August.

Variation in Number of Bees Reared as Season Advances

We calculate that there are about four generations of bees each twelve months' period with an average of about ten pounds each. Beginning November 1, when there is no brood in the hives, there are then some six or eight pounds of bees, about 5000 to the pound. By April 16, or in 24 weeks, nearly all these will be dead and a new generation of six to eight pounds will have taken their place. This second generation will live about nine weeks or to June 25, and by that time the hive is boiling over with bees, a few have swarmed, and they are in the midst of the clover honey flow. Of this third generation there are 10 to 15 pounds of bees.

The third generation will live about nine weeks, and by August 20 the fourth generation is in the midst of our main harvest. Hives here are then nearly if not quite as full of bees as they are in early June, say 10 to 14 pounds. These will last about 10 weeks, or up to November 1, when the year is up and the hive is about as full as it was when we began this estimate.

These estimates amount to from 32 pounds to 45 pounds per colony for the year. Is this estimate too high? I believe that leading colonies produce as much as 50 pounds, especially those that are given a new queen in June.

Let us look at this from another angle. Counting 5000 bees to the pound, 40 pounds would amount to 200,000 bees for the year. The queen begins her season's work before March first and may or may not quit laying by September 17, according to weather and crop conditions. Between these two dates are exactly 200 days. If the queen will lay an average of 1000 eggs per day for these 200 days, she will be the mother of 40 pounds of bees for her year's work. Is that too hard a stunt for her? We know that some days she will lay twice that number, and for each day she lays 2000 eggs she may knock off for two days and lay only 500 each day while she is resting.

Estimating Amount of Brood by Measurements

You can help prove whether these figures are right or wrong by actually numbering the brood reared by a good colony during the next season. Begin about the middle of March. By actual measurements get the number of square inches of brood and eggs in each side of each comb. Do this each 21 days to end of the season. This will require ten countings, the last will be September 20. Add these estimates to get total number of square inches of brood produced. Worker brood runs about 25 bees to the square inch. Drone brood is larger and takes a few days longer to mature, but the drones are much heavier than the workers and since we are after the number of pounds of bees produced, it will be about right to figure it all as workers at 5000 to the pound.

To count the brood and eggs in a comb, lay a pocket rule on the frame and get the average length and breadth of the mass of brood in inches. In other words, draw an imaginary rectangle about the brood, leaving as many full cells outside as there are empty ones within it. Record these two measurements, compute the number of square inches, and multiply by 25 to get the number of bees. When the two sides of a frame are about equally filled with brood a shorter way is to measure one side, and multiply the number of square inches by 50. A well filled Langstroth frame easily holds $15 \times 6\frac{2}{3} \times 50 = 5000$ cells of brood, or about one pound of bees when emerged.

Why not check up on one of your best queens when she has reached the peak of egg laying to see what she has done during the past 21 days. If she has as much as 50,400 cells of brood at any one time, that means she has been laying one hundred eggs per hour, 24 hours a day for a period of 21 days. Is this physically possible? If so, it is one of the wonders in the field of nature study. Let's apply the rule to her majesty and see if she ever has 10 pounds of bees in the brood stage at one time.

St. Charles, Mo.

[These figures agree in a general way with actual counts made by W. J. Nolan, Associate Apiculturist, Bureau of Entomology, Washington, D. C., several years

ago. In an account of one colony, in which these counts were made, published in the June, 1925, issue of Gleanings in Bee Culture, the following summary by months of the number of bees emerging was given:

March	8,276
April	28,109
May	47,250
June	36,763
July	30,381
August	22,468
September	23,708
October	13,850
November	705
Total	211,510

Assuming 5000 bees to the pound, this colony reared about 42 pounds of bees during the season.—Editor.]

Sweet Clover Comes Back in Kentucky

E. R. Root

Its Use for Pasture Is Now Increasing Rapidly in the Blue-Grass State as Elsewhere

Wife and I are now touring by automobile some of the southern states, going as far as Florida and returning through the orchard areas of Georgia, the Carolinas and Virginia. A similar trip through these same states two years ago made it seem necessary to go over the territory again to check up present conditions.

Among the things that had amazed and alarmed me some on the former trip was the discovery that sweet clover, the beekeepers' mainstay for honey, had almost completely disappeared from some of the northern counties of Kentucky that had formerly produced and shipped sweet clover seed by the carload. Where formerly there had been thousands of acres of this legume in the form of hay and pasture, and where there were thousands of colonies of bees, both were gone from some unknown cause. The thing that alarmed me was that, since sweet clover had disappeared from those counties in Kentucky, it might do so elsewhere.

Then I heard rumors of a sweet clover disease about which very little was known. If you wish to know more about it see November, 1931 and January, 1932, issues of this journal.

Disease? Yes, there was something that was killing the plant, but that apparently had little to do with the disappearance of the legume and the bees in Falmouth and Pendleton counties. The real cause was that the price of sweet clover seed had dropped from $15.00 and $20.00 a bushel to less than $1.00, and the farmers on those hills could not afford to grow it for that; and so they grew tobacco and corn. So much for that.

My second trip into Kentucky shows a much more encouraging picture. While it is true that sweet clover has gone from those Kentucky hills, it has been and is now being introduced elsewhere in the state in a very extensive way to improve the soil and to furnish pasture in dry seasons. Kentucky has suffered terribly during the last few years from drouth.

Sweet Clover for Pasture

Here is the new story: Numerous counties in the state have hundreds, yes thousands, of acres of sweet clover and its near relative, alfalfa. In 1930 Christian County had 2000 acres of alfalfa and 3600 acres of sweet clover. Henderson County had 2000 acres of alfalfa and 2200 acres of sweet clover. Mason County had 2500 acres of sweet clover. Sweet clover in mixed pastures in some of the counties reaches as high as 5000 acres. A glance of the figures furnished by the county agents show that sweet clover so far from disappearing from Kentucky is being introduced at an enormous rate in all the counties of the state.

It further develops that the hill counties can not compete with the rolling country with its soil rich in lime of the other counties. All this means that sweet clover is one of the principal crops in the Blue-grass State. It means also that bees will be moved into some of these counties where there are thousands of acres of sweet clover.

The severe drouths of the past two sea-

(Continued on page 323.)

From the Field of Experience

SELECTING THE APIARY SITE

Location of the Hives Has Much to Do With Success or Failure

The selection of an advantageous apiary site is one of the most important factors which govern the future success of the beginner and the continued success of the older beekeeper. The average production per colony for the year and the success in wintering are both determined to a considerable extent by the characteristics of the location.

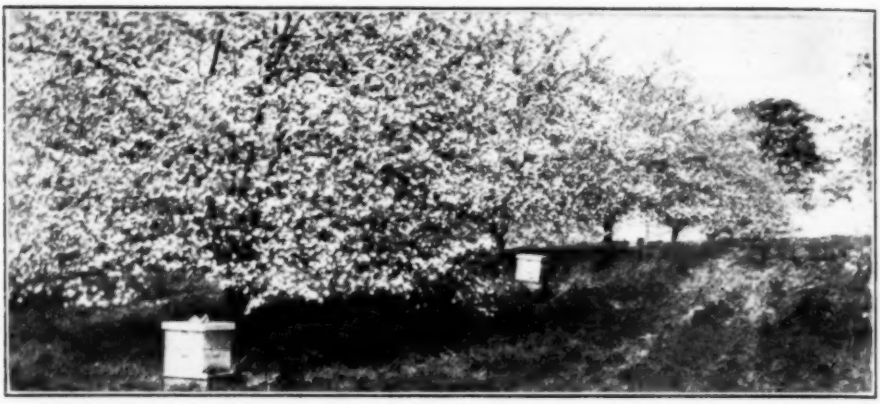
First in importance is the selection of a dry location where good air drainage is present. Oftentimes bees are located in a woods where the leaves hold the moisture, or they are located in damp bottomland near streams where the humidity is high. Cold damp air has a tendency to drain down through the smaller valleys in the evening, making such locations undesirable.

A damp atmosphere is also cooler than one that is dry. In a cool damp location bees begin work later and quit earlier in the evening. Dampness also encourages the growth of fungus and bacteria, and in this respect has a direct bearing on the development of European foulbrood, and such spring diseases as Nosema and May disease. One particular instance is recalled where two apiaries owned by the same beekeeper were located about 400 feet from each other. The one in a woods and the other in the open. The winter losses were heavy among the bees in the woods, but small in the apiary located in the open.

Colony in exposed location on same farm as those shown below. Photograph taken at same time. Temperature, 62°.

The water content of nectar is high, sometimes over 50 per cent. A large part of this water must be removed from the nectar by the bees. In a damp location it is much more difficult for the bees to remove the water and properly ripen the honey. The writer is of the opinion that souring occurs more often in honey produced by bees in damp locations. Damage

Colonies in protected place with good air drainage. Photo taken at same time as that shown above. Temperature, 82°.



Bees in a wind-swept orchard suffer severely from lack of wind protection.

to the bees and honey due to dampness can be avoided by selecting an apiary site on a hot dry sidehill where the bees get the benefit derived from an abundance of sunshine.

Prevailing winds will reduce the colony strength during both winter and spring, and often through the month of June. The effect of the heavy winds is to make the hive cold and shorten the lives of bees by blowing them about as they return to the hive with a load of honey or pollen.

Natural wind protection may be obtained in the form of a sidehill which forces the wind around or high above the bees, or it may be obtained by a patch of woods. Quite often, however, natural protection is not available. Under such conditions artificial wind protection must be provided.

Protection can be obtained by placing colonies behind buildings. A high board fence can be constructed out of waste lumber or slabs. Such a fence should be seven or eight feet high with an inch or two between the boards. A more attractive protection can be grown from a planting of evergreen trees. Temporary windbreaks are often constructed of corn stalks. The stalks are woven between three or four strands of strong wire or they are piled against a fence.

Often bees suffer severely from cold winds when they are placed in orchards to help pollinate the fruit. A temporary windbreak made by stretching burlap across the long stakes is a decided advantage to bees temporarily located in a wind-swept orchard.

Excessive shade, either natural or artificial is not desirable. Small apiaries are often placed under trees or in sheds where

A satisfactory temporary windbreak made of cornstalks.

Remains of 25 fine colonies of bees after two years in a location without wind protection.

the sun seldom if ever reaches the hives. Bees are more irritable under these conditions and are a little slower to leave the hive for the fields in the morning. A more desirable location would be one with plenty of sunshine. Light artificial shade boards should be provided to make the hives more comfortable during the hotter part of the day.

Bees should also be located in a place easy of access. Supers full of honey are heavy and are difficult to carry up or down a steep hill or over rocks. The value of the honey produced in an apiary is high in proportion to the area of ground occupied so there is no excuse for keeping bees on waste land that is difficult of access, or inconvenient for the beekeeper when working the colonies.—Edwin J. Anderson, State College, Pa.

ENDURANCE OF QUEENS IN MAILS

Still in Good Condition After Traveling for Six Weeks

An interesting fact that came to my notice last season was the length of time queens will live in the regular mailing cages during travel. I was called upon by the postal authorities to take charge of 24 queens for which they could not find an owner, there being no return address on the package. On taking over these queens I found that they were addressed to a beekeeper at Fort Royal, Ontario, and, on opening the package, I discovered they had been shipped from a queen-breeder in South Carolina.

It appears that there is no Fort Royal in Ontario so the postal people sent the queens on to a place of similar name in British Columbia. Finding no owner there, they were sent to another Fort in the Island of Cape Breton. Being disowned there, they were redirected to Annapolis Royal, Nova Scotia, which used to be called Port Royal, but without success. They were finally shipped to me by the authorities to be disposed of.

I found twenty-two of the queens alive and in fairly good shape, very few of the worker attendants being dead. I painted the little cages with sugar syrup and they all soon became quite active. Feeling that the shipper of the queens would probably lose a good customer by non-delivery, I wired him the conditions and asked for instructions for disposal of the queens, but in reply he felt that, by the time they were returned to him in South Carolina or sent to the correct address in Ontario, they might be in rather bad shape, so advised me to dispose of them as I saw fit.

They were introduced into colonies at the Experimental Farm, Kentville, Nova Scotia and at the Agricultural College, Truro, and they all did well. These queens without special packing, travelling the length and breadth of Canada, were dumped about in mail bags, laid around in post offices for at least six weeks, and when finally introduced into colonies, they did well.—H. G. Payne, Provincial Apiarist, Truro, Nova Scotia.

FORMALIN-WATER SOLUTION

Disinfecting Combs Not Recommended for Those Not Familiar With the Problem

Mr. Burnside's article in February Gleanings in regard to disinfecting combs is interesting and valuable. However, there is one important fact not considered: water will not readily enter the cells of a dry comb. A dry comb, if inserted vertically in a water bath and left 24 or 48 hours, will be practically dry when removed, the water not having entered the cells to any considerable extent. It is also known that even with the alcohol-formalin solution, much air will remain in the cells unless the combs are rocked from side to side to a nearly horizontal position. Mr. Burnside states that while thousands of combs are treated with the water-formalin solution without recurrence of disease, yet it occasionally does reappear the

following season or later. This, it would seem, is what might be expected.

It has been claimed that the formalin vapor within the cells serves to sterilize the combs without the necessity of liquid contact or saturation. In view of the reported failures of the vapor treatment and the length of time required for this mode of sterilization of diseased combs, it would seem rather unsafe to depend on the effectiveness of imprisoned formalin vapor within the cells, especially in cool weather.

Liquid alcohol, through capillary action, apparently follows the cell wall more effectively than does water, thus sterilizing by liquid contact, wetting the inner surface of the cells, the cocoons, and whatever else the cells may contain. This may result even though the cells contain a small quantity of air.

The greatest danger from re-infection in the use of alcohol-formalin treated combs is from capped cells of honey. These wax cappings are impervious to the solu tion. Unless one has very sharp eyesight and uses exceedingly great care, occasionally a capped cell will be missed. If one such cell escapes in a whole set of combs, re-infection is apt to follow.

In a disease infested area frequent inspection is exceedingly important, and where one has only a few diseased colonies, the safest and best proceeding is to burn at once the bees and combs of every colony that shows even a single infected cell. Beginners and others not familiar with the nature of American foulbrood and those not provided with proper sterilizing equipment ought not to be encouraged to try to save diseased combs.—E. S. Miller, Valparaiso, Ind.

PACKAGE BUSINESS 20 YEARS OLD

Some Difficulties Encountered in Early Days of This Now Robust Industry

This is the bicentennial year of the birth of "The Father of Our Country." Would it be of interest to the beekeepers of the United States and Canada to remember that it is also the twentieth anniversary of the birth of the combless package business?

In Alabama, where we were located in 1911, the locality had about failed as a honey producing district. Knowing that the northern honey producer could get good yields annually if he had sufficient bees, I concluded that they would find it profitable to buy bees from the South, if we could only manage to get the bees safely and economically to the North.

At that time we did not know what quantity of bees would be most profitable for the buyer, nor did we know anything about the kind or style of cages needed or the kind or quantity of food required for the various sized packages. For any certain quantity of bees, we had to experiment with different sized cages, also different positions for the food, as well as the amount of food required per day while in transit. Experimenting resulted in heavy transit losses, but by keeping records complete, including reports from buyers, we found that the food had to be made of good candy placed in boxes at the end of the cage with sufficient opening to it for the bees to have almost unlimited access, regardless of position of the cage. We also had to give the cage greater ventilation than is now necessary. To have shipped bees in those days with liquid food would have been certain failure, because of improper handling and storage by the express companies.

Regarding the size of the cage, it had to have four times the space occupied by the bees when in a close cluster. We also learned that we would have to give them enough food to last three times the length of time required for transit. This was to allow for close packing and frequent delays in delivery. We had to provide for extremes in every way.

Our first shipment was forty ½-pound packages to the state of Illinois, in 1912. The report I received regarding them, sixty days from delivery, was, I thought, too good to be true. The colony from each combless package was then occupying a two-story ten-frame hive, and had it nearly filled with bees and honey. This encouraged us to greater efforts.

Well do I remember visiting a beekeepers' meeting in Toronto in zero weather, taking with me two combless packages. Many good beekeepers at that time thought there was great danger of bees freezing in the North when shipped in these combless packages. I contended that we never had losses from that cause, but from being overheated or starved. Two beekeepers took these two combless packages of mine and hung them out of an upstairs window all night to see what would happen. Next morning they were in as good condition as when put out, although the temperature was zero or below.

I also remember that, while en route to Canada, I was joined by Mr. E. R. Root and Dr. E. F. Phillips. I told them of our success in shipping these combless packages. There seemed to be some doubt in their minds as to the veracity of my statements, for previous to this time the little printed matter we had on the subject stated that bees in quantity would no live more than six days caged. Mr. Root asked me to ship him two combless packages with bees when convenient. He would then ship them to Dr. Phillips in Washington, D. C. Shipment from one to the other was to be made to see how long the bees would live. This was done and they began to die in seventeen days. See Gleanings in Bee Culture of September 15, November 1 and December 15, 1915.

As soon as I was sure we knew the size and style of cage, kind, quantity and position of candy needed for safe delivery of different sized packages, I began to work with the express companies, so that they might learn how to do their part toward safe delivery. This need of the beekeeper was brought to my notice by an experience we had with a shipment to Mr. F. A. Allen, Philipsbury, East, Quebec, Canada, consisting of different sized packages. This shipment was nine days in transit, when it should have gone through in three days. Most of the ½-pound packages were dead, but a one-pound package arrived in good condition and Mr. Allen reported afterward that it gave him $23.00 worth of honey that season.

Of course, expressmen at that time knew nothing about the requirements of bees in transit, and cared less. They seemed willfully to do things which they had been instructed on the packages not to do. They would place these packages on side, ends, upside down, or store them away and cover them over—in fact, everything they should not do. Undoubtedly this was all because they did not realize the importance of paying attention to instructions.—W. D. Achord, Findlay, Ohio.

INCUBATION OF QUEEN CELLS

Caring for Them from the Time They Are Sealed Until Ready to Emerge

I have read a number of articles on the use of Buckeye and other poultry incubators to maintain the proper temperature and humidity for the delicate process of caring for queen cells between the time of capping and the emerging of the young queens. I understand that some breeders are successful in using incubators, but these are few in number. If queen breeders will try our method, I believe they will never spend another dollar for poultry incubators, nor will they lose any sleep in managing machines. After this method was perfected rather late last spring, we reared 1800 queens with practically no other expense than that involved in rearranging frames in the hives.

I place a small incubator compartment in the hive and allow the bees to maintain the required temperature and humidity, with a minimum amount of care on the part of the attendant. The incubator compartment or cage consists of two standard frames separated about five inches, and well braced to form a box, using thin strips and screen wire on the bottom and sides. The entire top of the cage is a trap lid, so that the cells within may be interchanged on the dates necessary.

This cage is placed in the center of a three-story hive, having capped brood on each side, below, and above it. Thus the bees, in caring for the brood around the cage, maintain the proper temperature and humidity necessary for the cells within. No other care on the part of the queen breeder is necessary to get results. Of course, he must label the bars on which the cells are placed, and interchange them at the proper time. Additional colonies and cages may be prepared to meet the breeder's needs.

In testing the efficiency of this method before adopting it I suspended a thermometer in the center of the cage for 48 hours before placing the cells in it. I did this at a time when outside weather conditions showed considerable variation, and found that a constant temperature of 95° F. was maintained within. How is that for accuracy? When queen cells are placed in incubators, it is considered correct to maintain a temperature of 95° throughout the entire period.

Some queen breeders might hesitate to adopt this method for fear of trouble with the queen at large in the hive, but she is screened off and will not interfere. Everything will go on as well as usual, except that swarming conditions naturally develop as a result of so much brood rearing. However, cell pinching at eight-day intervals reduces the likelihood of swarming.—Ola Overbey, Opelousas, La.

SPINSTER JANE SAYS—

"If you have two loaves of bread, sell one and buy a lily." What wise philosophy is contained in that old Chinese proverb! "Man does not live by bread alone," is true of those with wisdom. Food builds us up physically, but beauty uplifts and helps satisfy the spiritual in us. Our lives would be but drab, sordid affairs, were it not for the wonderful gift of beauty to the world. It all comes from God. Man, alone, is responsible for all the ugliness in the world.

Spring appeals to all of us, after the long quiet winter, but we should always keep wide awake to the beauty around us and recognize in it God's love for us. The sunrise and sunset, the star-studded heavens, the rushing of spring streams, the delicate colors and sweet fragrance of the flowers, the songs of the birds, the piping of the frogs, the hum of the bees—these are but a few of the many beautiful things in our lives. And do not forget our poetry and good literature, expressing much better than we ever can the feelings inspired in us and in others by all things good and true, hence beautiful. We must not be so occupied with our digging that we fail to see the crown suspended over our heads.

Bees appreciate beauty, too, and female-like, show it. You can see them darting here and there, dancing in the air, enjoying to the full the sunshine and warmth of spring.

When the old queen abdicates in favor of a younger princess, and her loyal ladies-in-waiting go out with her, they indulge in a mad whirl of gaiety for a time. Intoxicated with their newly-acquired, brief freedom, the swarming colony holds revelry, while the neighboring colonies join in to give them a "send off" or is it a charivari? Anyway, they put on a sort of dancing Marathon from which they soon become tired. They settle down peacefully or circle swiftly away to find new sanctuary.

Just now the green meadows are sprinkled with the gold of dandelions, and the bees are working among them busily storing both pollen and nectar. One year, more for an experiment than anything else, we extracted some of this before the clover honey flow, put it in sealers, and labeled it "Dandelion Honey." It sold well and many remarked on its pleasant flavor. It was delicious in flavor and of a clear amber color, but, best of all it left our clover honey wonderfully clear and more delicately flavored.

I have often wondered why we do not have professionel "honey tasters." We have all heard of "tea tasters," and why not experts in the sweeter product?

Some day you honey folk will have so educated the public taste that people will demand certain flavors in honey, and know exactly what they want.—Spinster Jane.

CHRONICLES OF BEEDOM

From the Discovery of America Down to the Present Time

And it came to pass, in the third year of Ferdinand and Isabella of Castile and Arragon, that brave and adventurous men discovered a new world. The honey bearing plants, while not numerous, were well fertilized by the native insects. Wild fruits were sufficiently abundant to supply the wants of the sparse population.

Then many men came in more ships and the Good Lord put it into the hearts of wise men to bring to the new world fruit-bearing trees to feed the increasing population. But for the lack of pollen bearing insects to fertilize the blossoms, the trees bore little and imperfect fruit. So Le Bon Dieu sent the honey bees, and behold, the trees bore abundantly; and the Lord looked with favor upon the work, and, behold, it was very good.

While the bees increased in numbers wonderfully, they gathered not enough honey to satisfy the apetites of the inhabitants. So the Lord sent us the clovers—white dutch from Holland, alsike from Sweden, and alfalfa from Spain. The keepers of the bees prospered and laid up a goodly number of shekels for a rainy day. Good prices were obtained for nature's delicious sweet, and producers of the honey and the honey eaters were happy.

Then the devil got busy and created the price cutters. This fellow put grit in the working machinery of the beekeepers who were asking a living price, and a multitude of fallen angels cut under him, and—

There wan'st wuz two cats at Kilkenny;
Each thought that was one cat too many.
So they fought, and they fit, and they scratched and they bit,
Till exceptin their tails and the tips of their nails,
Instead of two cats there weren't any.

—J. F. Dunn, Ridgway, Ontario.

From North, East, West and South

SOUTHERN CALIFORNIA.—Say, fellows, we sure had a dry one. March went down in the records of Southern California as having had the lightest rainfall of any March during the past 45 years. How is this following one of the most promising of earlier prospects? It certainly keeps the wisest of prophets guessing as to the outcome so far as a honey crop is concerned. We still hear the old proverb, "There is lots of time for rain yet," which is true, but plants have had a setback to say the least. We have had considerable drying wind and the ground for several inches below the surface has little or no moisture. Verily, we never have two seasons alike in southern California.

Sages made a nice growth but they show the need of moisture, and, unless we get rain within the next few weeks, the honey from that source is certain to be materially lessened. Oranges are blooming and the next three weeks will tell whether we are to get a satisfactory crop from that source. The weather having remained fair during March, most colonies made enough honey from early bloom to bring them up to April 1 in good shape. Some of the best colonies made as much as a super of honey.

Honey prices remain about the same. Practically all the old honey has passed out of the hands of producers, not at satisfactory prices to the beekeeper, however. To carry honey over from one year to another seldom proves profitable.

Beeswax is seldom quoted and there seems to be not enough to cause honey buyers even to inquire as to any wax that the beekeeper might have on hand. The price remaining so low and foreign wax allowed to come in duty free does not coincide with my ideas of fair play. When the American beekeeper pays $100 per month for help to compete with the low wage scale of the foreign beekeeper—well, we just can not continue and stay in the business.

April 5. Another north wind! This is the hard drying wind that beekeepers so much dread seeing come, especially when we are in the midst of such a fine orange honey flow as we were having the past few days. We shall have to take what comes and hope for the best.—L. L. Andrews, Corona, Calif.

NORTHERN CALIFORNIA.—Beekeeping is in full swing. Beekeepers are so busy that the depression no longer worries them. The fruit bloom has been exceptionally heavy. Every other honey plant for this time in the season is producing abundantly. While this might indicate a great honey crop, our beekeepers have learned that—"there is many a slip twixt cup and lip." They know that the crop must be in the cans before they are sure of what they will get.

Even in Sunny California, Beekeepers Have Many Difficulties With Which They Must Contend.

One drawback we have to contend with is rain. There is yet danger of not having the rain we so much depend upon later in the spring. We have another hindrance in the way of reaping a harvest—swarming. We are having too much of this. Some of our most successful beekeepers tell me that they are having more swarming than usual this year. Then we have a new complaint—miscreants are destroying whole apiaries. We have always had some complaint along this line but it is worse this year. Officials of the State Association are doing all in their power to get at the root of the matter.

The Pacific Coast Bee Culture Field Station continues in its good work for the industry. A very important move of the station is the one under the charge of Frank E. Todd in which Oregon State College is co-operating in a two-year survey and will report on the cost of production.

Dr. Eckert of the University of California is one of our busiest men. His presence in the various county association meetings is greatly appreciated by the members. H. M. Krebs, the State Supervisor of Apiaries, has his work well in hand. He is meeting with the finest of co-operation on the part of beekeepers.

We are wearing out the depression; we have had no suicides; we have no hungry beekeepers. The average beekeeper is courageous and courage is what we need today. We have learned that life is a succession of shadows and its meaning a mystery to the shadows that move through it. —Cary W. Hartman, Oakland, Calif.

TEXAS. — The weather during the month of March concentrated all of an average Texas winter in the first half of the month. The lowest temperature reached was 27 and the thermometer stood at 32 or below for a period of six days. This was accompanied by cloudy weather and some snow. Following this the remainder of the month has been without rainfall, and with cold, high winds.

The Honey Plants Made a Quick Recovery After the Big Freeze in March.

The effect of this sudden and extreme cold upon a vegetation similar to that which occurs in May was terrific. The native plants suffered almost as much as the introduced ones. It looked for a short time like a honey crop could not be expected this year. However, the accumulated moisture in the soil and the wonderful resistance of the native plants has brought about a recovery that is all that could be desired. Brood rearing is normal. The plants are producing nectar in such quantities that the bees are not using any of the old stores. Mesquite had all its first leaves killed, but is coming out again, and the tags are coming with the leaves.

The weather folk-lore of Texas is peculiar. It emphasizes the sudden and great changes of weather which occur and make it appear that anyone who would attempt in any way to predict the weather is either lacking in brains or is a newcomer. At the same time there is no locality where there are more weather maxims. The present spell of weather certainly did not agree with two of those most often quoted by old Texans. The first one is that mesquite is never caught by a spring freeze. The other is that when the post oak leaves are the size of squirrel's ears it is time to plant corn. This year both post oak leaves and corn were frozen.

Prof. Marcus E. Jones of Pamona College, California, and V. L. Cory, Texas Agricultural Experiment Station, have just completed a collecting trip through Southwest Texas and adjacent Mexico. They report all the plants in the entire area to be in the same condition as those around San Antonio. After a close observation of the bees and honey plants within a radius of thirty miles of San Antonio it is evident that there will be a normal crop of horsemint and mesquite honey. —H. B. Parks, San Antonio, Texas.

ARIZONA.—For practically the entire month of March, we have had cool and windy weather without any sign of rain. The alfilerilla and featherduster has not come up and bloomed as I thought it would. While we had fine winter rains, the country seems to be dry now and in need of moisture. The weather continues to be windy and cool.

Bees are generally strong and are swarming in some areas. There has been an abundance of pollen over the desert region and enough nectar to stimulate brood-rearing. The valleys have had a greater variety of wild flowers for bees to work on than the higher areas.

The first mesquite blooms have been reported from the western part of the state above Yuma. Hot winds dry up the nectar and blooms as fast as they form and the bees get very little honey from them. It will be warm enough there to suit any one by the time the mesquite comes in full bloom.

Extracting in the western part of the state will begin about the middle of this month. I do not look for a bumper crop now. Two months ago I thought we were sure of a big crop. Now I believe we will have just about an average crop.

Indications are that prices offered for honey this season will be even less than was offered the last season. I see very little reason for this since the old crop is generally pretty well cleaned up. It is the serious condition with which the country is faced today that is causing the prices to smash to the bottom.—Leslie Wedgworth, Oracle, Arizona.

OREGON.—In my last report two months ago I referred to the "cost of production" survey which is being undertaken in Oregon through the co-operation of the Pacific Coast Bee Culture Field Station at Davis, California, and the Oregon Experiment Station at Corvallis. The preliminary survey which was then being made, has been practically completed. Mr. Frank Todd of the Pacific Coast Station and Mr. A. S. Burrier of the Oregon Experiment Station have done most of this work, having visited nearly 100 commercial beekeepers. This has been a very difficult job, as beekeepers are quite generally scattered.

Many weeks of detailed, careful study of the information secured will be necessary before a preliminary report can be

prepared. A similar survey will be made during the spring of 1932, after which a trial summary will be made and the information will be available for distribution.

At the end of this survey, we are going to know more about beekeeping conditions and practices in the state of Oregon than is known of beekeeping conditions in any other state in the union. As a result we shall be able to know for sure just what are the main problems of the beekeepers of the state and why some succeed better than others.

The general spring conditions apparently are not much different than usual this year, although it does seem that the rain has continued without much let-up or much opportunity for the bees to work. Even though they went into the winter in good condition from the standpoint of stores, many colonies have run short, and even starvation has occurred in a few cases. In this section of the state the Oregon maple is about a week later than average and is now in full bloom. Spring flora appears to be in excellent condition, and with an unusually large number of honey plants in the mountains there should be a good supply of nectar.

Market conditions show no improvement and there seems to be ample honey in the hands of the beekeepers, enough at least to keep the market down.—H. A. Scullen, Corvallis, Oregon.

GEORGIA.—During the middle of March we had two weeks of very cold weather. The thermometer stood around 19° to 21° F. All kinds of vegetation was killed. Spring was far advanced, and the forest was a beautiful green. You can imagine what the results were. Brood was chilled and carried out.

The average colonies were almost at the swarming point. Today (April 7) vegetation is beginning to put out again, but no pollen has came in. The results are, our once strong colonies this spring are reduced to nuclei. Queens are just beginning to lay well again, and they are not spreading brood very rapidly because of lack of pollen. Winter stores have been greatly reduced, but no actual feeding has been resorted to as yet.

This will be the latest spring ever known in this country. The general apiary work for spring time has just begun. All increase should have been made, and at least 35 per cent of the honey crop harvested.

In the Okefenokee Swamp region we have had no rain. Branches, creeks and the swamp itself are still dry. On account of the drouth, forest fires have practically destroyed all the honey plants, except the large black gum, tupelo gum and popular. This is all putting out at the present time, with no bloom buds as yet visible.

Our local honey markets are about all closed, on account of the depression. Where there are small markets open, they are dumping grounds for the remainder of last year's honey crop. The scramble is on to close out at any offer for the sake of a little cash.—J. J. Wilder, Waycross, Georgia.

LOUISIANA.—Since my last letter, the summery winter was turned into a wintery summer. After months of real spring weather which brought forth flowers of every description, suddenly a ten-day cold spell came upon us during the early part of March, bringing freezing weather all over Louisiana to the coast. Here at Baton Rouge, we had ice up to a quarter of an inch thick on four mornings. Imagine this, after the bees had been gathering nectar for thirty days, and the queens were laying to their fullest capacity.

Field Bees Confined to Their Hives During Cold Spell Brought on Excessive Swarming.

Many hives were congested with young bees, the colonies being almost to the swarming point. During this cold spell, there were very few bees flying, and as there were young bees emerging from the cells daily, swarming conditions were easily reached. The result is swarming now every day.

While the cold killed many flowering branches on trees and also killed much of the young clover, summer is again with us and many plants are secreting nectar freely.

Bees are in very fine condition. But little honey was taken from the hives the past fall on account of low prices, and the early spring honey flow added thereto has given ample food for the increased colonies during the cold period.

There is still quite a lot of honey on hand among the smaller beekeepers. Large

producers have about cleaned out. Beekeepers with selling ability have sold their output and bought honey from others to fill their orders. This honey is usually sold in fancy packages and from house to house. It is surprising how many truck loads can be disposed of in this way.

I recently visited several queen rearers and package-bee shippers, and found their orders coming in in a fine way. They told me that their business, considering the depression, was about equal to former years. —E. C. Davis, Baton Rouge, La.

SOUTH CAROLINA.—So far, the bees have stood the winter unusually well. There is yet some danger of starvation as there are not enough honey plants blooming to supply food for as much brood as they have started. If the weather will stay clear and warm it will be a matter of only a few days before honey will be coming in well.

The bees really wintered better than I had expected during such a warm winter. The weather was such that the bees had flights practically every day. They were so active that I thought they would use more stores than they did. In most hives there was much brood all winter, and prospects are now that swarming is going to be hard to control. I have already seen a number of hives from which drones are flying, and a number of queen cells have been started.

Two weeks ago we had our coldest weather and a great many of the fruit buds and other flowers were damaged some. There was quite a good deal of brood killed by chilling, but in most places this has all been cleaned out. As far as I can tell now it looks like we will have a good honey year, and I believe the bees will be in condition to gather the first spring flow.—E. S. Prevost, Clemson College, South Carolina.

WESTERN OHIO.—We have been home from Florida only one week. Beekeepers report that the cold weather during March wasn't any too good for the clovers. The stand of clover is not very good, perhaps on account of the drouth last summer and fall.

I can not give a full report as to how bees wintered as we have not been able to look over them. But indications are that they have come through in good condition, are strong in bees, and have sufficient stores to carry them through until the next crop. However, beekeepers will, no doubt, have to watch their bees closely as soon as warm weather appears, and check up on the stores after such a mild winter. It certainly would be too bad to let any starve at this time when the cold weather is about over. I have often seen strong colonies starve to death at the very beginning of spring when a little food would have saved them.

Some of our beekeepers received packages from the South today (April 1). It is rather cold to take care of them but, if the weather becomes warm, these early packages should make rousing colonies by June 1.

The prospects for a honey crop are not as good as a year ago, but there is plenty of moisture. Favorable weather would greatly improve the outlook.

The honey has all been sold, so we will start the new season without any left, which is not often the case.—Fred Leininger, Delphos, Ohio.

NORTH DAKOTA.—Beekeepers are now (early April) busy getting their bees moved out of cellars and placed in spring locations. Ordinarily bees are moved outdoors about the third week in March, but this season is a little later than usual.

Several reports have already come to this office that colonies have wintered in very fair condition, but that a good deal of early feeding of light weight colonies will be necessary.

More Soil Moisture is Needed for Best Results in Nectar from Sweet Clover This Season.

It is too early to say much about the condition of the sweet clovers and other nectar-producing plants, but it seems to be the general opinion that they have stood the winter well. However, much depends on the weather this season. The amount of rainfall will decide to a large extent whether or not the plants do well during the coming summer. On account of the preceding drouth periods, most of North Dakota needs heavy rainfall to catch up on moisture requirements in the soil. If the precipitation is had, especially during the early part of summer, it will be of great benefit both to the honey plants and beekeeping of the state.

Quite a few inquiries have been re-

ceived recently for bees. Those inquiring are for the most part prospective beekeepers who want to purchase already established apiaries and equipment. Since very few beekeepers have colonies for sale, there seems to be no alternative for these beginners except to purchase new equipment and package bees.

As part of the entertainment for over 1000 Boy Scouts gathered in Fargo in annual convention, many industrial and agricultural exhibits have been staged in the new physical education building of the North Dakota Agricultural College. A bee and honey exhibit staged by Syd Shannon, local boy scout, attracted much attention. Over 5000 people visited the exhibits yesterday and attendance will probably be as great or greater today.—J. A. Munro, Fargo, N. D.

SOUTH DAKOTA.—Generally speaking, there will be a substantial loss of colonies and many below normal in strength due to the prolonged confinement of the bees, these conditions showing more definitely as spring progresses. It is yet too early to say what the condition of sweet clover will be except that it will be much below average due to the severe drouth of last summer. This will mean dividing some of the larger yards so that fewer bees will range a given area. We could certainly look forward to a bountiful season but for the lack of clover, as moisture in the soil is sufficient. An observation showed over 11 inches of precipitation during the past six months, and the amount is corresponding over most of the state.

We have a letter from R. W. Vance, state bee inspector, adding strength to the opinion that the state's bee industry is striding ahead with an increase in the number of large apiaries and results being obtained in the control of American foulbrood. He states that 50 per cent of the counties are now considered free of the disease. The trend from small to large beekeepers is evident, too, as one drives through the country. Here and there is seen a few hives, unpainted and in a state of disuse, while in other cases, those who started a few years ago with two or three colonies and a genuine aptitude and liking for the work, now number their colonies in the hundreds.

In his letter Mr. Vance estimates the bees in the state upward to 25,000 colonies. This figure is interesting in connection with the state's population of 690,000 people. Assuming yield of 100 pounds per colony gives us 2,500,000 pounds of honey. A little rough arithmetic shows honey production at about three and one-half pounds per person. Surely South Dakotans should eat many times that amount. It's up to beekeepers to do some sales promoting to everybody's good advantage.

Sales of honey locally are showing the usual slight seasonal decline. Both prices and sales have so far been satisfactory as with other years.—J. Franz Norgren, Junius, S. Dak.

IOWA.—There is definite increase in interest on the part of producers in the use of package bees this year. The lower prices for packages have been quite an inducement in their more liberal use in this state. There are, however, other factors which may include such items as general depleted condition of the colonies as a result of the last two years of rather unfavorable conditions and the desire to start again with good clean stock. There are also a good many who are killing diseased colonies in the fall, treating the equipment during the winter and restocking the equipment with packages in the spring.

Beekeeping is Holding Its Own Through Adverse Conditions Better Than Many Other Industries.

Looking back over the last two or three years, one must be impressed with the fact that honey production has stood up exceedingly well in spite of the serious times through which we have passed. There is probably no type of production that has been more satisfactory during the past twelve months. This is indicated in the expressions of producers in a good many sections that they expect to stay with their bees and to give more careful attention during the coming year than they have in the past.

There is frequently an overlapping of interests in regard to the use of sweet clover. Some growers are attempting to use it in their rotation scheme in such a way that it is of little value to the honey producer. However, there is always a lot of sweet clover which escapes and becomes wild and thereby furnishes a considerable amount of pasture. Naturally the beekeep-

ers will be much interested in the increased use of Hubam clover, which will serve the purpose of the general farmer and also would produce a good crop of honey.—F. B. Paddock, Ames, Iowa.

MICHIGAN.—Nearly all of the winter we have had has come in the last month. This has been a great help to the beekeeper who put the bees away right last fall, but many unpacked colonies have starved. As I write, the bees are gathering pollen for the first time this spring, from pussy willow. Some years soft maple is nearly past by now, April 7, but no soft maple buds are open yet in this district. Clover plants are growing, and have not heaved badly.

Honey has been moving along slowly, locally. Michigan, being an industrial state, feels the industrial inactivity, especially in the honey market. Good honey has been prominently advertised from local stores for as low as 39 cents per five-pound pail on special sales, the usual sale price being 49 cents. These same stores charge 23 to 25 cents for the one-pound jar, which shows that the five-pound pail is being used as a leader for their whole store. Even under these conditions, honey has not been moving normally.

High Pressure Salesmen Are Selling Cuban Honey in Michigan at $2.50 a Pint.

In Traverse City and Grand Rapids, salesmen have been pushing Cuban honey under the name of Extract of Aguinaldo, at $2.50 per pint, and they are getting away with it by selling it as a tonic and cure for various ills. They have bona fide testimonials from folks who have found relief from certain disorders after taking several pints of Extract of Aguinaldo, and one dentist from one of these towns told me that he was very much interested in this particular honey as a possible remedy for one disorder of the teeth. Our Department of Agriculture chemists have been consulted by the promoters of this product, and permission has been given them to sell it under a slightly revised label.

The moral is that this sales campaign is about three-fourths sales effort and one-fourth product. If salesmen can go out single-handed and sell Cuban honey for $2.50 per pint, and make several re-sales to the same customers in these times, then the "repression" is getting better, and there is hope for the rest of us who find difficulty in getting an offer better than 5 cents for white honey in ton lots.—R. H. Kelty, East Lansing, Mich.

SOUTHERN INDIANA.—The winter as a whole has been ideal for bees. Some have reported that bees consume more stores when the winter is warm and they have frequent flights. I have not observed that this is the case. Bees have been flying nearly all winter up to March 1, and the consumption of stores has been very small. When they find nothing in the fields, they cease flying and remain quiet in their hives. I am surprised to see how little stores have been consumed, considering there was more or less brood rearing during the entire winter.

In February there was an abundance of pollen from maples, pussy willows, and a little from other flowers. Our first winter weather came in March when the thermometer dropped within eight degrees of zero. All pollen blossoms were killed. Peaches were in the pink and as a result practically all peach blossoms are killed. We had a bed of crocuses in full bloom in February. When the cold weather came they were frozen stiff and covered with snow. As soon as the weather warmed up they went on blooming right where they left off and the bees stripped them of pollen as fast as any was formed. Other flowers were killed outright.

The backward spring looks favorable to later bloom and I see no reason why there should not be a good honey flow unless later weather should change conditions.

Cold Weather in March Killed Considerable Brood in Unpacked Colonies But Not in Packed.

There was considerable chilled brood in colonies not packed as some dead larvae could be seen at the entrances of the hives. Bees that were packed showed no sign of loss. I looked into a few packed in the eight-colony cases and they seemed not to know there had been a cold snap. After two weeks of severe weather their brood was in perfect shape and the capped cells and pearly white larvae made a pretty sight. I can not understand how they could keep such nice brood when they could get no pollen unless they had a good supply on hand.

Honey is moving rather slowly, although comb honey is well cleaned up.—Jay Smith, Vincennes, Ind.

ONTARIO.—Once more it looks as though the law of averages is going to assert itself so far as the weather here is concerned. From early winter up to March 7, conditions were really abnormal for our latitude as we had but little weather that could be called wintry, almost no snow, but quite a lot of rain. But after the first week of March had passed, we got some real winter weather although no severe cold, the lowest recorded here being about 9° F. above. However, it has been cold and dreary ever since the change, and bees have not actually had a full cleansing flight since March 5.

A superficial examination was made today (April 9) of three small apiaries. Bees appear to have wintered well with no loss whatever except one that had been queenless early last fall. Most colonies appear to have lots of stores, but we did find four in one yard and five in another that need feeding right away. It is hard to explain why a few colonies show a much heavier consumption of stores than the balance in an apiary, but we usually find this to be the case. There is no evidence of dysentery or other winter troubles whatever, as every colony examined appeared to be as clean as when packed away last fall. However, we have looked over only about 10 per cent of the bees, so we may find some casualties before all are examined.

Clovers Were Damaged by Alternate Freezing and Thawing During March and Early April.

While the bees appear to have come through all right, I am sorry to say that clover has not fared so well. With severe freezing all through the last three weeks of March and first week of April, with thawing during the day much of the time, the clovers heaved badly in our locality as there was no snow for protection. I have looked over several fields of clover including alfalfa, alsike and one field of sweet clover. All are damaged more or less, most of them more.

A neighbor sowed a field late last spring with oats and sweet clover, pasturing the field late in the season. Intentions were that the field should serve as a pasture again this year as the sweet clover should then be at its best. The plants were not very large last fall, as, in addition to being sown late in the season, drouth later on prevented as great growth as would normally be expected. The result is that the freezing weather of this spring has heaved every plant so far as I could see, and the roots are all exposed from four to five inches, the crowns appearing to be on stilts. No doubt this field is ruined. While alsike and alfalfa are not as bad as this, they are, as a rule, damaged badly and will not be of much value unless we get real warm weather soon.

There is little to report in the honey market situation except that, for the first time in years I have noticed lately advertisements in the Toronto dailies asking for clover honey in any and all kinds of containers. While only box numbers were given in these ads, I understand that some of the chain stores have been trying to buy the honey. This is pretty good evidence that supplies are not in the hands of the producers any more, whatever supply may be held by the Co-operative.

Beeswax prices are very low, in fact, the lowest I have ever heard of since keeping bees. Formerly, the crop of beeswax was a nice side line for a bit of ready cash, but this year this item is disappointing indeed.

Although the beekeeping industry at present is in a state of depression, yet, strange to say, we hear of very few bees being offered for sale. While there is little money in the business, I suppose the real reason that bees are not being offered for sale is because the owners know of nothing else that is any better. To sell would be a case of "jumping from the frying pan into the fire," as the old saying goes. Then again beekeepers as a class are great optimists, always hoping things will be better next year. This may be another factor tending to make them hold on a bit longer even if it means tightening up the belt a bit more now and then.

Locally the outlook looks rather dreary this morning with an overcast sky and moisture falling, composed of some rain and a few snow flakes mixed in by way of variety. But I see in April Gleanings that down in Louisiana the bees were swarming in March, and somehow, regardless of the gloomy prospect before me just now, I feel that the bees here will likely be swarming in May and June, so why worry.—J. L. Byer, Markham, Ont.

Who's Who in Apiculture

To supply a handy reference of the names and addresses of state and provincial apiary inspectors, secretaries of beekeepers' associations, extension workers in beekeeping and other information often needed by our readers, we have corrected our Who's Who in Apiculture, as of April 1, 1932.

State or Province.	Beekeeping Taught in Agr. College	Bees on Combs Prohibited.	Net wt. law Extr.	Net wt. law Comb.	Inspector State or Province	Secretary State Assn.
Alabama	Yes	Yes	Yes*	Yes*	T. Atchison, Montgomery.	J. M. Robinson, Auburn.
Alberta					S. O. Hillerud, Edmonton.	
Arizona			Yes	Yes	T. E. Bishop, Scottsdale.	
Arkansas	No	Cert.	Yes	No	J. V. Ormond, Elba.	J. V. Ormond, Elba.
B. C.		Yes				
California	Yes	Cert.	Yes	No	H. M. Krebs, Sacramento.	C. W. Hartman, Oakland.
Colorado	Yes	Cert.	Yes†	Yes†	R. G. Richmond, Ft. Col.	Mrs. H. Carson, Denver.
Conn	Yes	Cert.	Yes	Yes	W. E. Britton, New Haven.	C. J. Rost, Meriden.
Delaware						
Florida	No	Cert.	No	No	R. E. Foster, Gainesville.	M. E. Darby, Zephyrhills.
Georgia	No	Cert.	No	No	A. B. Hamlin, Macon.	A. B. Hamlin, Macon.
Idaho	No	Yes	Yes	Yes	W. H. Wicks, Boise.	K. M. Hutteball, Boise.
Illinois	Yes	Cert.	Yes	Yes*	A. L. Kildow, Putnam.	V. G. Milum, Champaign.
Indiana	Yes		Yes*	Yes*	J. E. Starkey, Indianap.	J. E. Starkey, Indianap.
Iowa	Yes	No	Yes*	No	F. B. Paddock, Ames.	F. B. Paddock, Ames.
Kansas	Yes	Cert.	No	No	R. L. Parker, Manhattan.	Geo. Pratt, Topeka.
Kentucky	Yes	Cert.	No	No	W. A. Price, Lexington.	W. A. Price, Lexington.
Louisiana	Yes	Per.	No	No	W. E. Anderson, Baton R.	O. W. Rosewall, Baton R.
Maine			Yes	Yes		
Manitoba					L. T. Floyd, Winnipeg.	
Maryland			Yes	Yes	G. J. Abrams, College Pk.	E. N. Cory, College Park.
Mass	Yes	Cert.	Yes	Yes	B. N. Gates, Boston.	
Michigan	Yes	Per.	Yes	Yes*	D. P. Barrett, Lansing.	R. H. Kelty, E. Lansing.
Minnesota	Yes	Cert.	Yes	Yes	A. G. Ruggles, St. Paul.	M. C. Tanquary, St. Paul.
Mississippi	Yes	Cert.	No	No	C. Lyle, State College.	Clay Lyle, State College.
Missouri	Yes	Cert.	Yes	Yes	K. C. Sullivan, Jeffer. Cy.	Nina Scott, Clinton.
Montana	No	Per.	Yes	Yes	O. A. Sippel, Bozeman.	O. A. Sippel, Bozeman.
Nebraska	Yes	Cert.	Yes	Yes	L. M. Gates, Lincoln.	D. B. Whelan, Lincoln.
Nevada	No	Yes	Yes	Yes	G. G. Schweis, Reno.	Mrs. F. Limas, Fallon.
New Bruns.	Yes	Yes	Yes	Yes	H. G. Miller, Fredericton.	H. G. Miller, Fredericton.
New Hamp.			Yes	Yes		
New Jer.	No	Cert.	Yes	Yes	E. G. Carr, Pennington.	E. G. Carr, Pennington.
New Mexico			No	No		
New York	Yes	Cert.	Yes	No	A. C. Gould, Albany.	E. T. Cary, Syracuse.
No. Caro			Yes	Yes		F. B. Meacham, State Col.
No. Dak	Yes	Yes	Yes	Yes	J. A. Munro, Albany.	C. S. Engle, Fargo.
Nova Scotia	Yes	Yes	Yes	No	H. G. Payne, Kentville.	E. D. Craig, Kentville.
Ohio	Yes	Cert.	Yes	Yes	C. A. Reese, Columbus.	W. E. Dunham, Columbus.
Oklahoma			Yes	Yes		
Ontario	Yes	Yes	Yes	Yes	F. E. Millen, Guelph.	F. E. Millen, Guelph.
Oregon	Yes	Cert.	Yes	Yes		H. A. Scullen, Corvallis.
Penn	No	Cert.	Yes	Yes	H .B. Kirk, Harrisburg.	C. N. Greene, Troy.
Quebec					C. Vaillancourt, Quebec.	
Rh. Island	No	Cert.	Yes	Yes	A. E. Stene, Providence.	R. Vaughn, Greenwood.
Sask					R. M. Pugh, Regina.	
S. Caro	Yes	Per.	Yes	No	J. A. Berly, Clemson Col.	
S. Dak	Yes	Cert.	Yes	Yes	R. W. Vance, Pierre.	W. Hoffman, Madison.
Tenn	Yes		Yes	Yes		G. M. Bentley, Knoxville.
Texas			Yes	Yes		
Utah			Yes	Yes		
Vermont	No		Yes	Yes	F. L. Stearns, N. Benning.	C. Mraz, Middlebury.
Virginia			Yes	Yes	H. W. Weatherford, V. H.	
Washington			Yes	Yes	R. L. Webster, Pullman.	
West Va.						
Wisconsin			Yes	Yes*	E. L. Chambers, Madison	H. F. Wilson, Madison.
Wyoming			Yes	Yes	Jas. Spriggs, Lander.	

*When in package form, net weight is required.

†Net weight marked only when label is used.

United States—Investigation and Demonstration in Beekeeping, Jas. I. Hambleton, Apiculturist, Bureau of Entomology, Washington, D. C.

Dominion of Canada—Investigation and Demonstration in Bee Culture, C. P. Gooderham, Dominion Apiarist, Experiment Farm, Ottawa, Canada.

American Honey Producers' League—Prof. V. G. Milum, Secretary, Champaign, Ill.

American Honey Institute—Mrs. Malitta Fischer Jensen, 30 Kenmore Road, Indianapolis, Ind.

Extension Specialists in Beekeeping—Alabama, W. A. Ruffin, Auburn; California, Dr. J. E. Eckert, Davis; Connecticut, L. B. Crandall, Storrs; Florida, R. E. Foster, Gainesville; Iowa, F. B. Paddock, Ames; Kentucky, W. A. Price, Lexington; Louisiana, E. C. Davis, Baton Rouge; Michigan, J. C. Kremer, East Lansing; Minnesota, M. C. Tanquary, St. Paul; Missouri, Geo. D. Jones, Columbia; Montana, O. A. Sippel, Bozeman; Nebraska, O. S. Bare, Lincoln; New Brunswick, H. G. Miller, Fredericton; New York, Geo. H. Rea, Ithaca; Nova Scotia, H. G. Payne, Kentville; Ohio, Virgil N. Argo, Columbus; Ontario, F. Eric Millen, Guelph,; Oregon, H. A. Scullen, Corvallis; Pennsylvania, E. J. Anderson, State College; South Carolina, E. S. Prevost, Clemon College; Tennessee, G. L. Herrington, Knoxville.

Heads of Grain from Different Fields

Importance of Little Things.

Attention to details certainly make a lot of difference in honey production. That is why some colonies do so well while others do not. I once had a colony which I called the "ne'er-do-wells." I had attempted to requeen it twice, but without success. I noticed that this colony was in the shade, and the line of flight was somewhat obstructed. I placed it in a clean, sunny nook with a clear line of flight, gave a new queen, a good supply of nurse bees, and plenty of honey. You should have seen the colony grow strong and store honey. Everything seemed to go along with precision and enthusiasm.—Chas. H. Huey, Decatur, Georgia.

Sweet Clover as Milk-Producing Feed

You say that sweet clover is the greatest honey producing plant; we have found it to be also the greatest milk producing feed when used as pasture. All cows in the herd will milk uniformly high when pastured on it. One year with 15 cows in all stages of lactation from one to nine months, they produced from 25 to 50 pounds per day, or an average of 40 pounds each. We find it best to seed sweet clover (yellow) with alfalfa, making good hay for grinding in a roughage mill, or making good pasture all summer. Cows like this hay better than clear alfalfa. The sweet clover improves the soil for later cuttings of alfalfa. Let's boost sweet clover.—E. S. Chandler, Bristol, Pa.

Novelties in Beeswax

Several years ago our beeswax from cappings was accumulating, and we wanted to get out of it all we could in money value. We purchased several small hollow chocolate forms—dog, cat, elephant, rabbit, lion—and moulded small wax animals. These sold well at our county fair and state agricultural show at 10 cents each as a novelty for the sewing basket. These sold when the plain wax cake would not sell. This netted about 80 cents per pound for beeswax. At Easter season we sell a lot of marshmallow eggs and rabbits that contain honey. Every little helps to move the honey.—D. C. Gilham, Schuylkill Haven, Pa.

Emergency Inspection Work

At a recent meeting of Lenawee County beekeepers, two features were outstanding. After being told by State Apiary Inspector D. P. Barrett that prospects for inspection funds were poor, the commercial beekeepers and association members decided that, as an emergency measure only, those who feel the need of inspection in their immediate vicinity may have it by paying for the time and travel expenses of the inspector. After the regular meeting a group of the most interested folks had dinner together and for three hours listened and participated in a general discussion of problems, led by Geo. S. Demuth. Probably no occasion is more enjoyable to the true beekeeper than an opportunity thus to compare informally plans and ideas.—R. H. Kelty, East Lansing, Michigan.

Two Queens in Same Hive

On July 10 last year, I found hive No. 11 queenless and broodless. I gave a frame of brood with one queen cell, the same day. On July 14, I gave them a pure bred Italian queen and two frames of brood, but did not remove the queen cell. On August 10 to my surprise, I found a black queen, all frames crowded with brood, and some black and some yellow young bees. On August 26, I found the black and the yellow queen fighting. The black queen was on the yellow queen's back all doubled up as though about to sting. I pulled them apart and gave the Italian queen to another colony that had lost its queen; she went to work as though she had not been in a fight. Did these queens fight often without hurting each other or did I find them just in time to save the yellow queen's life? They could hardly have been in the hive together that long and this be their first meeting.—Frank Vert, Flint, Mich.

A Simple Robber Trap

An easy and reliable method of preventing robbing from becoming rampant, in a large apiary after it has been discovered that one or two colonies are being robbed out, is by the use of an escape board. Simply place the escape

board under the hive body, with the escape turned up, and make sure that all cracks through which a bee might pass are chinked. This arrangement allows the robbers to enter but does not permit them to leave. A little calcium cyanide will effectively destroy them, and what honey is left can be saved.—William G. Sanders, Muncie, Ind.

Prefers Long Top-bars

Just why the short top-bar has held the preferred space in the price lists of the past, I do not know. I have never been able to find any real merit in these frames with their fancy staples. It is most aggravating to have combs fall down through supers while being moved; especially so if the combs are full of honey. It is natural for beginners to buy short top-bars if they are listed as standard, and they work quite well as long as they are kept in new hives. I know several beekeepers who, at first, wanted nothing but short top-bars, but they changed their minds as some older hives kept creeping into the equipment. They buy nothing but long top-bars now. I, too, have had my lessons and will continue to pay for them as long as there is a short top-bar in my hives. I prefer a bottom-bar that is ⅞" wide as this width protects the midrib of the combs and serves a guide for the knife while uncapping. It also speeds up the work of uncapping.—G. A. Pauli, Pueblo, Colo.

[As a general rule, the long top-bars find greatest favor in the West, while short top-bars are preferred in the East. —Editor.]

Selling Two Crops in One Year

With little frost, no snow, and no winter conditions with which to contend, we can handle many apiaries and produce honey by carloads at small expense. Up until the last two years, the bulk of our honey went to Germany and England; but when Germany put a duty of 7 cents per pound on honey and England went off the gold standard, we were left with two years' honey crop on hand. If it had been only tons we might have consumed it in our home trade, but to handle carloads of it was a problem. We began advertising, distributed a large number of recipes to housewives with inducements to use honey in everything where a sweet or spread was needed. Large signs with samples were displayed on the highway. All hands and the cook got busy selling honey. The result was that our honey disappeared like snow on a warm day.—B. A. Hadsell, Buckeye, Arizona.

Control of Early Swarming

The first colonies to take the swarming fever, I work this way: Take the queen with one frame of brood and bees from the bottom story and place in an empty hive-body on top of the supers; fill out with foundation, slip a queen-excluder underneath the body, and bore a small hole in it for bees to go in and out. A ripe queen cell is left in the bottom story and a frame of foundation is put in place of the comb that was taken out. Soon there will be a contented colony and a story of increase on top. These top stories can be built up with frames of brood taken from later swarming colonies, replacing with foundation to hold them in check. The top stories can be requeened with nice cells and later set aside for increase, of they can be united with the colony. I find there must be two or three supers between top and lower brood-chambers.—C. H. Huey, Decatur, Ga.

Placing Brood Above Comb-honey Super

There is no more danger of the big colony intended for comb-honey production desiring to swarm before the time to put on the sections than the big colony run all season for extracted honey, for there is no difference between them up to that time. The critical time with the big colony is when so many combs are taken away and replaced with sections of foundation in reducing the hive to one brood-chamber. The change is so great that the brood-chamber immediately becomes congested, filled with honey and bees of all ages, and all, including the queen, will be compelled to loaf and prepare to swarm. Placing one brood-chamber above the comb-honey super at this time changes all this, attracts the bees upward, maintains the balance, encourages the prompt drawing out of the section foundation which gives storage room, and saves the situation. After this has been accomplished the brood that was placed above may be utilized elsewhere, but enough drawn out comb-honey supers must remain throughout the harvest or there will again be a condition causing congestion in the brood-chamber.—S. Cushman, Chicago, Ill.

Bees as Fighters

Every living being has some method of defense and while the honey bee is small its method of defense ranks with the best. Nature realized that honey was a priceless food and would be sought after by man, beast, bird and insect. Therefore, the bee must have an adequate method of defense and it has just that.

The Elephant and the Bee

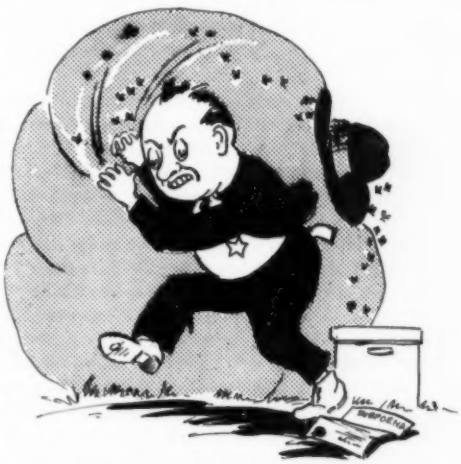
A traveler in Africa relates that he saw an elephant allow his curiosity get the better of him concerning a bee tree. The opening in the tree was just on a level with the elephant's head. He had a sweet tooth and smelling the honey decided he would run his trunk into the hole, pull out some combs and have a feast. And pray why not? Wasn't he the lord of creation, feared by everything and fearing nothing? If he wanted to get that honey who was there to stop him, especially a little insignificant bee?

With this thought in mind he ran his trunk in and drew in a good breath in order to smell just where the honey was. In drawing in his breath he drew a bee into his trunk. That elephant let out a roar that could be heard for miles. Then he rolled over on his back and wallowed in the underbrush all the time keeping up a trumpeting that indicated his regrets. He then took for the river and completely submerged. All this on account of a little bee. They say an elephant never forgets and it is a two-to-one bet that that elephant never forgot his first lesson in beekeeping.

The Sheriff Learns to Beware

A number of years ago our sheriff came out to subpoena me as a witness in a law suit of which I knew nothing. I told him there was a mistake, as it was some other Jay, but he proceeded to read the summons just the same. He was a big sheriff of the western type and wore a big broad brimmed hat and carried a nasty looking gat. I thought to myself, "I'll bet he is not nearly as formidable as he looks. Bet just one little bee will make him hunt tall timber. Am not sure, but will find out." The bees were cross that day and a number had been followng me about dancing around in front of my face. I was perfectly willing to take a number of stings if I could only get one or two to go after the sheriff. Therefore, as I walked over where he was, I jounced all the hives that I passed.

He was reading, "You are hereby summoned to appear—" That was as far as he got. A bee hit him in the eye. He dropped the summons, whirled around and got out of there as fast as he could, pawing the air in front of his face with both hands. From a safe distance he told me to read the summons. I said I was busy and would like for him to read it to me while I worked with the bees. He decided he had



The sheriff dropped his subpoena and left hastily.

accomplished his mission and left. The court house gang never got over razzing him for not standing his ground.

Bees in Warfare

In ancient times colonies of bees were kept on top of the walls as a means of defense. They were usually kept in stone crocks, and, when the enemy approached, as many crocks were shoved off the wall as the situation seemed to warrant. It must be remembered those were the days when bees were bees, and they were selected for that duty on account of special qualification. A crock of bees bursting in the midst of a hostile army was much more effective than a bomb-shell.

It is related that on one occasion the enemy was besieging a castle and was

(Continued on page 317.)

Talks to Beginners

Geo. S. Demuth

The attention needed by bees this month depends to a large extent upon the region in which they are located. In some parts of the country the major portion of the honey crop will be stored this month. Beekeepers in those regions will be busy adding empty supers as needed, and struggling with the problem of swarm control. In other regions the main honey harvest is still a month in the future, and in some cases even two months or more.

The Building-up Period

In most of the North and even in portions of the South, the main honey flow begins sometime in June. Therefore, May is the building-up period or the time of raising the great army of workers for the harvest in the greater portion of this country and in Canada.

It is a critical month in the care of the colonies. Thousands upon thousands of colonies will not be prepared for the honey harvest because they came through the winter too weak in number of bees to build up in time for the honey flow. Other thousands will fail because the queens are too old or otherwise unfit for the heavy work of laying 2000 or more eggs per day during the peak of the building-up period. Other thousands of colonies will fail because they do not have sufficient food to rear a large amount of brood during this critical period. An enormous amount of honey is necessary for extensive brood rearing. On the other hand, colonies some times fail to attain full strength in time for the honey harvest because the hives become crowded with honey, thus limiting brood rearing unless the beekeeper adds a second story to supply much needed room. In most cases, the most important single item of attention this month is that of making sure that every colony is supplied with an abundance of food, feeding sugar syrup to supply the deficiency, if necessary, so that every colony has a supply of at least 15 to 20 pounds throughout this critical period.

Colonies that run short of honey at the time the harvest hands should be reared are often completely ruined so far as gathering a crop of honey this season is concerned. If the weather is favorable during this critical brood-rearing period, the bees may gather enough nectar from the early flowers to carry on extensive brood-rearing, but if not, the colonies are often on the verge of starvation before the beekeeper discovers their plight.

It is not necessary to lose the honey crop or a portion of it because of a lack of workers for the harvest. If the colony is too weak to build up to great strength during the next few weeks, it can be strengthened by adding a pound or two of package bees from the South. If the queen is poor, she can be replaced with a vigorous young queen purchased from a southern breeder. If the colony runs short of honey, when nectar is not available, feeding 10 to 20 pounds of sugar syrup in friction-top pails (repeating if necessary) will tide a colony over until nectar is available. If more room is needed for brood rearing, a second story may be given to supply the needed room.

Colonies that have wintered well, have a good queen, and were wintered in two stories, the upper story being fairly well filled with honey, will need no attention this month unless they need more room to prevent early swarming. It is sometimes necessary to give a third story to such colonies this month to prevent swarming.

Swarm Control

Colonies often become so strong during the building-up period and before the beginning of the main honey flow that they prepare to swarm. In most cases this should be prevented if possible, especially in localities where the honey flow begins in June. This early swarming can usually be prevented by adding a second story (if the colony was wintered in a single story) before the first story becomes crowded with brood, honey and pollen. For best results, this second story should contain combs like those in the brood-chamber, preferably dark colored ones.

However, if these are not at hand, frames of foundation may be given, provided the bees are gathering enough early nectar to cause them to lengthen the cells in the upper part of the combs of the brood chamber with white wax. When it is necessary to use frames of foundation, it is well to put three or four frames of brood in the middle of the upper story, placing frames of foundation at eacn side of the combs in both upper and lower stories. As the foundation next to the combs is drawn out, these frames can be

moved toward the side of the hive and a fresh frame of foundation placed next to the brood combs.

When producing comb honey, a second story of brood combs should not be given unless the colony becomes quite crowded before it is time to give comb-honey supers. In the white clover region, the time to put on comb-honey supers is usually 10 to 15 days after the first clover blossoms appear.

Clipping Queens' Wings

During fruit bloom, or, when bees are gathering nectar freely from early flowers, is a good time to find and clip the wings of the queen. By doing this, it is much easier to hive swarms that may issue, and if a swarm should come out when there is no one at home, it will return instead of absconding as it probably would if the queen were able to fly. By choosing a fine day when the bees are busy on fruit bloom or other early flowers, the queen can usually be found readily by the method described in these talks last month. After finding her, she can be picked up by taking hold of both wings between the thumb and forefinger of the right hand. She should then be transferred to the left hand, holding her either by her legs (being careful to grasp all six of them if possible) or by holding her thorax lightly between the thumb and forefinger of the left hand. The right hand is then free to pick up the scissors and clip off at least two-thirds of both wings on one side. Note that the queen, like the other bees, has four wings, two on each side.

How Bees Prepare to Swarm

As the colonies grow rapidly stronger during the spring, drone brood begins to appear. This can easily be recognized by the elongated dome-shaped cappings projecting beyond the cappings of the worker brood. The patches of drone brood are usually found in the lower corners of the frames, or along the lower edge. This may be considered a remote preparation for swarming. However, it does not necessarily follow that a colony will swarm because drone brood is being reared.

In definite preparation for swarming, the bees build queen cells. These are usually built along the lower edges of the combs. They are easily recognized since they are entirely different from any other cells in the hive. Instead of being horizontal, they are in a vertical position with the opening at the lower end. When they are completed, they resemble a peanut shell the sides being pitted. The beginner who examines his colonies frequently (as every beginner should) will note the first indications of swarming—little queen-cell cups usually located along the lower edge of the comb. Later, some of these will be found to contain eggs. It is then that the colony is definitely preparing to swarm. The swarm usually issues at about the time the queen cells are sealed, which is eight or nine days after the eggs were laid in the queen-cell cups. Thus, by examining the brood combs once a week during the swarming period, it is possible to tell in advance which colonies are preparing to swarm and about what day a swarm may be expected.

Prime Swarm and Afterswarms

In normal swarming, the old queen accompanies the first swarm, which is called the prime swarm. In the parent colony, there are a number of queen cells, often a dozen or more. If the prime swarm was not delayed by bad weather, a second swarm called an afterswarm may be expected to issue about the eighth day after the prime swarm issued unless the beekeeper interferes to prevent. When bees are allowed to have their own way, several after swarms, each accompanied by a young queen, will leave the hive until it is almost completely depopulated. After the colony has exhausted itself in swarming, all but one of the remaining young queens are killed and later this young queen becomes the new mother of the colony. It will thus be seen that the fine working force that was built up in preparation for the honey flow may be completely dissipated by swarming unless the beekeeper interferes to prevent it. When this is permitted, the bees often fail to store any surplus honey.

Preventing Division of the Working Force

A division of the working force by swarming just previous to or during the main honey flow can be prevented by hiving the swarm in a new hive placed on the old stand, then later transferring most of the young bees from the old to the new hive. The parent hive is set to one side while the bees are being hived, after which it is placed close beside the newly-hived swarm with its entrance turned slightly away. A day or two later, the hive of the parent colony may be turned with its entrance close beside that of the new hive now on the old

(Continued on page 317.)

Gleaned by Asking

Geo. S. Demuth

Locating Apiaries in Commercial Orchards

Question.—I have an opportunity to locate a permanent apiary in a 200-acre orchard, but I hesitate on account of dusting. How does dusting affect the life and welfare of the bees?—P. Jacobs, Ohio.

Answer.—According to reports from commercial orchard districts, dusting often seriously injures colonies of bees. The poisonous dust may drift into adjacent fields and settle on nectar-bearing or pollen-bearing flowers so that even though the orchardist does no dusting while the trees are in bloom, the bees may be destroyed. If you are unable to induce the orchardist to use a liquid spray and be careful not to spray his trees while in bloom, it would be better to avoid such a location for your apiary.

Changing to Caucasians

Question.—If I change my colonies of bees from Italians to Caucasians, would it be feasible to buy a package of Caucasian bees with a queen, put a newspaper over the brood chamber of the colony of Italians, set the package in an empty super over the food-chamber and await results?—Erwin O. Freund, Illinois.

Answer.—The plan should work out all right under ordinary conditions, especially if both the bees in the package and in the colony are fed heavily in order to induce them to fill themselves with syrup. It would be well to leave the queen caged for a day or two, permitting the bees to release her by eating out the candy in the cage. If your colony is strong, it would not be necessary to add the package. In that case, you could simply kill the Italian queen and at the same time introduce the Caucasian queen by the ordinary cage method.

Giving Combs of Brood to Package Bees

Question.—In an article in the March issue of Gleanings in Bee Culture, page 146, Gordon A. Bell says, that giving sealed brood to package bees makes a bad matter worse. What is the objection to giving sealed brood provided it is free from disease? I usually give two frames of brood taken from strong colonies at the time of hiving the package.—Clark J. Fulton, Kansas.

Answer.—Mr. Bell's statement applies to giving combs of sealed brood three or four weeks after installing the package. At that time, so many of the original package bees have died that the colony may not be able to take care of additional brood through a possible spell of cold weather. Giving combs of emerging brood should be helpful at that time, but giving combs of sealed brood that would not emerge for several days would place an additional burden upon the dwindling colony. Therefore, Mr. Bell recommends giving additional package bees to tide over that critical period. In your case you give the combs of sealed brood at the time of installing the bees, thus giving the colony a boost later when this brood emerges that would tide the colony over the critical period described by Mr. Bell. There can certainly be no objection to your plan provided combs of brood are available for this purpose, unless the colonies from which the brood is taken are unduly weakened so that they are unable to build up to full strength in time for the honey flow.

Requeening Colonies Established from Packages

Question.—Is it necessary to requeen colonies built up from package bees the following spring, or can the same queen be used for another season's work?—Oswald H. Hermle, Saskatchewan.

Answer.—In your locality with its long honey flow, many queens that were shipped with packages a year ago are liable to fail some time during this spring and summer. This is especially true in extracted honey production, since queens are worked harder in extracted-honey production than in comb-honey production. It will be well to watch the work of these queens carefully and replace promptly any that show signs of failing. Some beekeepers in western Canada and the northwestern United States requeen in late summer or fall the colonies that were established from packages if they expect to winter them. Otherwise, too many of the queens that were shipped with the packages and that have gone through a long season of heavy egg laying fail the next spring.

Hiving Swarms Back in Same Hive

Question.—In the management of swarms, is it all right to kill the queen and put the swarm back into the hive from which it came?—Bert Highlands, Ohio.

Answer.—Hiving the swarms back without the queen works fairly well during a long honey flow provided the colony is properly requeened afterwards. Such colonies do not give up swarming, but simply wait until the young queens begin to emerge when, if the beekeeper does not interfere and destroy the queen cells, a large swarm accompanied by a young queen will issue, leaving the hive almost depleted of bees. Therefore, it is necessary to destroy all but one of the queen cells before any of the young queens can emerge. This means that the queen cells must be destroyed not later than the

sixth or seventh day after the prime swarm issues and in some cases even earlier than this, since the prime swarm may have been delayed in issuing by bad weather. Since the youngest brood is not all sealed at that time, the bees are liable to start other queen cells over some of the unsealed larvae after the other cells have been destroyed, thus making it necessary to again destroy queen cells ten days after the prime swarm issues when all the brood will be sealed. These cells built over older larvae are often difficult to find, so it is well to destroy cells five days after the swarm issued, then again five days later. Sometimes the desire to swarm is so intense that, if all but one of the queen cells are destroyed, a swarm will issue soon after the young queen has emerged, leaving the colony hopelessly queenless, since all the brood is sealed at that time. This can be prevented by destroying all queen cells after the brood has all been sealed and introducing a young laying queen.

Producing Comb Honey in Shallow Frames

Question.—Will you kindly give me some advice about producing comb honey in shallow frames?—W. H. Buckholz, Deshler, Nebr.

Answer.—To produce comb honey in shallow frames, the colonies should be managed the same as in producing comb honey in sections. In order to produce combs that are fairly straight without separators, the colony should be strong enough that the bees will occupy and work in the entire super instead of in only a portion of it. It is also necessary that the honey flow be heavy. It would be impossible to produce straight combs during a poor honey flow even though the colony is strong. Full sheets of thin super foundation should be used in the frames. Supers should be tiered up in the same manner as in producing comb honey in sections. In some localities, there is considerable difficulty in producing comb honey in shallow frames on account of pollen being stored in the combs, but in other localities and under other conditions, there is but little trouble of this sort.

How to Find the Queen

Question.—I have trouble in finding the queen in the hive. I wish you would tell me how to do it.—Mrs. Joseph Mattler, New Jersey.

Answer.—With Italian bees, usually the quickest way to find the queen is simply to take out and examine one comb after another on both sides until the queen is found. As each comb is lifted from the hive, the operator should look first on the near side of the next comb in the hive before turning the comb in the hand, for it frequently happens that the queen will be seen on the next comb in the hive. By putting back the comb in the hands and taking out the next comb immediately, the queen can be caught if wanted. Otherwise, she is liable to get away by running under the combs sometimes to the far side of the hive. If the bees are a nervous type of blacks, it is more difficult to find the queen. In such cases it is sometimes quicker to run the bees through an excluder. This can be done by placing the brood-chamber on top of an empty hive or a hive containing a few empty combs with a queen excluder between. The bees can then be driven down by taking out one comb at a time, shaking or brushing the bees from it. The queen will be found on the excluder trying to go through.

How Spray Poisoning Affects Bees

Question.—When bees are killed by spray poisoning, is it the bees that gather the nectar that die, or is it the brood that is poisoned after the nectar is in the hive?—W. H. Essex, Ohio.

Answer.—Apparently bees that gather nectar containing poison, die before they get back to the hive or soon after so that none of the poisoned nectar is stored in the hive. However, freshly-stored pollen gathered from fruit trees sprayed in full bloom has been found to contain a considerable amount of arsenic which apparently kills the nurse bees, thus further depleting the colonies and resulting in the starvation of the brood.

Brood Diseases Carried by Swarm

Question.—If a colony having American foulbrood casts a swarm, and the swarm takes up its abode in a clean empty hive, would they carry the disease?—A. A. Woodward, New Hampshire.

Answer.—American foulbrood can be carried by a swarm issuing from a diseased colony. However, if the swarm is hived on foundation, the disease usually is not transmitted; but if it is hived on empty combs, the disease is almost certain to appear.

Hiving Package Bees on Combs Containing Fermented Honey

Question.—Is it safe to put package bees in a hive containing combs of honey that is fermenting? The bees died in this hive during the winter. Did they die because of the fermented honey or did the honey ferment after the bees died?—Arthur Henschel, North Dakota.

Answer.—It is safe to put package bees on such combs provided there is no American foulbrood in them. Fermented honey does not injure the bees when they can fly freely every few days. The bees probably died from some other cause and the honey fermented after the colony died.

Just News

Editors

Golden Blossom Honey is being advertised in a radio program through the National Broadcasting Company on Sunday evenings at 7:00, Eastern Standard Time.

Emil F. Nebel, one of Missouri's pioneer beekeepers, died on March 26. He was the senior member of John Nebel & Sons Supply Co., an extensive bee-supply and queen-rearing enterprise.

The April issue of "World's Work" contains an article entitled "Behind Nickel Bars," which describes the enormous growth of the candy business in the United States and shows a picture of a stream of honey being poured into other ingredients used in making Honey Almond Bars, one of the most popular five-cent candy bars.

The University of California, Berkeley, has recently published a bulletin entitled, "Nectar and Pollen Plants of California," by G. H. Vansell. The bulletin is well illustrated, indicates where the plants described are most abundant, gives the time of blooming, the color of honey, and an estimate of the value of each as a source of honey.

The Government Printing Office has recently issued a reprint from the Journal of Agricultural Research, entitled "Some of the Characteristics of Yeasts Found in Fermenting Honey." The paper was written by G. E. Marvin, W. H. Peterson, E. B. Fred and H. F. Wilson. It is a contribution from the Wisconsin Agricultural Experiment Station.

The new motion picture, "The Realm of the Honeybee," recently released by the U. S. Department of Agriculture, is now available to borrowers. It is a silent film in four reels, the running time being about 50 minutes. Prospective borrowers should apply to the office of Motion Pictures, United States Department of Agriculture, Washington, D. C. There are no rental charges, borrowers paying only transportation to and from Washington.

A summer beekeeping conference for the Missouri Valley region is scheduled to be held at the apiary of W. A. Jenkins, Rockford, Mo., on May 25 and 26. This is about halfway between Kansas City and Omaha on the R. L. & N. Railroad and on Missouri Highway No. 1. The meeting is sponsored by the Colleges of Agriculture of Kansas, Nebraska, Iowa and Missouri. The tentative program includes: The Chlorine Treatment for the Control of American Foulbrood, by Dr. M. C. Tanquary, Professor of Apiculture, University of Minnesota; Pollinating of Fruit, by Dr. R. L. Parker, Professor of Apiculture, Kansas Agricultural College; Queen Rearing and Races of Bees, by Prof. F. B. Paddock, Professor of Apiculture, Iowa State Agricultural College; Roadside Marketing, by Prof. O. S. Bare, University of Nebraska; and Grading, Standardization and Marketing of Honey, by Jas. I. Hambleton, Bureau of Entomology, Washington, D. C.

The Cleveland Honey Butter Company, Cleveland, Ohio, recently placed on the market a new product called "H-B Honey and Butter." The manufacturers state that this new product is made by amalgamating pure honey with freshly-churned butter by a new process, which by long and severe tests has proved successful. The combination is an ideal spread for bread, toast, griddle cakes, muffins, buns, hot cereals, and biscuits; and is being used in making pastries, wafers, rolls, cakes and cookies. If this new product attains the favor among consumers which it deserves, it will constitute an outlet for enormous quantities of honey in the near future.

Figures recently released by the Bureau of the Census on the number of colonies of bees in 1930 and the amount of honey produced in 1929 for the United States, indicate that the census enumerators again failed to list a large percentage of the larger commercial honey producers. According to these figures, the total number of colonies listed was 3,107,728 for the 1930 census as against 3,476,346 for the 1920 census, and 3,445,006 for the 1910 census. The total production in 1929 is listed as 83,546,315 pounds as compared with 55,261,552 pounds in 1919, and 54,814,890 pounds in 1909. The number of farms reported as having bees in 1930 is 854,863. The value of the honey crop for 1929 is given as $12,260,066. An unfortunate misunderstanding in regard to the listing of bees in villages, towns and cities on the part of enumerators has again resulted in a failure to list a large percentage of the larger producers, who, as a rule, live in villages or towns.

Clouds and Sunshine

(Continued)

Anthony's first stop was at the grocery where he bought his supply of provisions. The grocer, Mr. Jacobson, was much surprised to see Anthony and his outfit. When asked to buy some honey he tried to evade the issue but finally decided to take one 60-pound can, with the understanding that it was to be traded out for goceries.

Anthony then called on the four remaining grocers, but made no sales. The grocers told him that they couldn't be bothered putting up honey, also that it wouldn't sell.

He then started down the main street of the residential section on a house-to-house canvass. Strange as it may seem, he secured attention immediately and usually got an interview, but somehow he was weak on closing the sale. In one instance, he managed to sell a two-quart jar of honey. As he was filling the jar from a 60-pound can, he became engrossed in conversation and ran the jar of honey over on the clean kitchen floor, much to the disgust of the lady of the house. Some hot water partially remedied the situation. However, Anthony's honey selling enthusiasm was decidedly dampened. Somehow the town no longer held any attraction, and he suddenly experienced a longing for home. So, as the shadows began to lengthen, we find Buckskin and Anthony, with his unsold honey, homeward bound.

Anthony had planned to call on Mr. Bright on his way home, but now he hesitated on account of the unsold honey. However, he did manage to muster up enough courage to call. He found Mr. Bright busy in his apiary house, nailing up hives ready for his package bees. When Mr. Bright saw Anthony's outfit, and the load of honey, he was indeed surprised but said little. He took in the situation at a glance. Mr. Bright had developed a honey market and needed some honey to supply his trade until the new crop was harvested, so he took the most of Anthony's honey off his hands. This pleased Anthony. Life began to take on a brighter hue. The conversation began to flow more easily and turned from honey to bees.

Mr. Bright asked Anthony if he had his hives ready for the package bees that would be shipped soon. Anthony said he had some old hives with crooked combs that he intended using for the packages. It developed, after much questioning, that the hives were standard in dimensions and contained standard frames but the combs were built in criss cross because no comb-foundation had been used. Mr. Bright persuaded Anthony, somewhat against his will, to substitute full sheets of foundation, for the crooked combs. Mr. Bright had enough extra foundation in stock to fill Anthony's frames. This he furnished in exchange for honey.

As Anthony left for home, Mr. Bright tried to impress upon him the importance of having his hives, feeders and everything in readiness for the packages that were due to arrive in less than a month. Anthony reached home feeling very weary but wiser as a result of the day's experience.

The following day he started preparing his hives for the packages. About noon the warm sun coaxed him out of his workshop. The call of the wild was too much for him, so he took down the old rifle and walked up along old Plum Creek. The ice and snow had practically disappeared. Old Plum acted as though he might go on a rampage again. Anthony wondered if his shack and bees would be safe in the future. The flood of the previous spring left him in a somewhat uncertain frame of mind. And so, as the days passed, Anthony did a little fishing, a little hunting, and less work on his hives.

One evening Mr. Bright drove up to Anthony's shack with the five packages of bees. He intended to help Anthony hive them, but the hives were not all in readness for the bees. As Mr. Bright was in a hurry he gave Anthony some brief instructions on hiving the bees and drove off, remarking as he left that he would return in a few days to see how the bees were coming.

Anthony tried to read the directions for handling the packages. The first paragraph said that, if the weather was cool, the packages should be put in a warm place until ready to install. The weather was cool, to be sure, so he carried the bees into the shack, built up a fire, set them close up to the stove, then went out to finish his work on the hives.

Unfortunately, in carrying the packages into the shack, the wire screen on one package came in contact with a sharp ob-

(Continued on page 324.)

EARLY SPRING IN NORTH CAROLINA

Upper left: A colony just transferred from a box hive leisurely enters its new home. Upper right: C. L. Sams, extension specialist in beekeeping, talking to a group of beekeepers. Middle: E. R. Root telling a group of beekeepers the importance of strong colonies for pollinating fruit blossoms. Lower: A commercial apiary among North Carolina pines.

Sell and Buy Here

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate—7 cents per counted word each insertion. Copy should be in the 15th of month preceding.

HONEY FOR SALE

"We do not guarantee the reliability of honey sellers, although we require strict references from them."—From Our Guarantee and Advertising Conditions.

TRY WIXSON'S HONEY, Dundee, New York.

WHITE clover honey, 6½c. Sturdevant, St. Paul, Nebr.

CLOVER honey in new 60-lb. cans. Wells B. Crane, McComb, Ohio.

CLOVER honey in new 60s. D. R. Townsend, Northstar, Mich.

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

CHOICE clover honey in 5-lb. pails, 60-lb. cans. C. J. Baldridge, Kendaia, N. Y.

CHOICE clover honey in new 60's, liquid, 7½c. Wm. F. Vollmer, Akron, N. Y.

AMBER clover, 2—60-lb. cans per case, 5c lb. Henry Williams, Romulus, N. Y.

WHITE clover honey in 60's at $8.00 per case. Discount large lots. Jos. H. Hoehn, Ottoville, Ohio.

CHOICE Northern New York white clover honey. Wm. C. Wahl & Sons, Cape Vincent, New York.

FOR SALE—300 cases comb honey at reduced prices. State your wants. H. G. Quirin, Bellevue, Ohio.

HONEY—Yes, we have it, chunk comb and extracted, at prices to sell. W. S. Earls & Son, New Canton, Ill.

FOR SALE—White clover honey in 60-lb. cans. None finer. Satisfaction guaranteed. J. F. Moore, Tiffin, Ohio.

CLOVER in new 60's, 6c lb.; amber, 5c; buckwheat in 60s and 165-lb. kegs, 5½c. H. B. Gable, Romulus, N. Y.

FOR SALE—Fine quality white clover extracted in 60-lb. cans and 5-lb. pails. Wilbur Green, LaGrange, Ind.

OHIO'S finest comb and extracted white clover honey. Prices on request. Sample, 15c. Geo. Morrison, Cloverdale, Ohio.

WHITE clover honey, extracted and chunk. Prices on request. 1-lb. sample, 15c. F. W. Summerfield, Grand Rapids, Ohio.

CLOVER honey, choice, ripened on bees. Satisfaction guaranteed. Case or quantity. E. J. Stahlman, Grover Hill, Ohio.

HONEY FOR SALE—All grades, any quantity. H. & S. Honey & Wax Company, Inc., 265 Greenwich St., New York City.

WHITE, and amber buckwheat extracted honey. Prices reasonable, quality best. H. E. Crowther, Jefferson, Ashtabula Co., Ohio.

STOLLER'S excellent quality clover honey, comb and extracted, unexcelled. The Stoller Apiary, Latty, Ohio.

WHITE clover extracted honey. Write for prices and sample. Kalona Honey Co., Kalona, Iowa.

HOWDY'S HONEY—White, clover extracted in sixties, at 6¼c. Howard Potter, Jr., Ithaca, Michigan.

MICHIGAN'S FINEST CLOVER HONEY. No disease, new cans, 7c. John McColl, Tecumseh, Michigan.

COMB HONEY, finest obtainable, fancy and No. 1, strictly pure clover, white stock. Write Irvin A. Stoller, Latty, Ohio.

FINE clover honey in new sixties at a price you can afford to pay. Sample and prices on request. Harry C. Kirk, Armstrong, Iowa.

COMB HONEY—Fancy, white, $3.00; No. 1, $2.50; No. 2 white, No. 1 buckwheat, or amber, $2.00. Edge Water Apiaries, Phelps, N. Y.

FOR SALE—5-lb. pails choice clover honey, 40c each, 36 pails to case. Also 60's, Off color, 6c, and buckwheat, 5c. Wm. G. Blake, Port Huron, Mich.

NEW CROP SHALLOW FRAME COMB HONEY, also section honey, nice white stock, securely packed, available for shipment now. Colorado Honey Producers' Assn., Denver, Colo.

FOR SALE—Well ripened white sweet clover honey. Don't let your customers be without honey. The stock we furnish will please them. Write today for prices. Colorado Honey Producers' Association, Denver, Colo.

HONEY—We sell the best comb in carriers of eight cases each—extracted basswood, buckwheat, sweet clover, white clover and light amber. Tell us what you can use for prices. A. I. Root Company of Chicago, 224-230 W. Huron St., Chicago, Ill.

WHITE clover honey, put up two 60-lb. cans, 2 cans per case. State quantity wanted and I will quote price. Leonard S. Griggs, 711 Avon St., Flint, Mich.

NEW YORK State comb and extracted honey, buckwheat and clover, any quantity, all size packages. Five-pound pails my specialty. Edward T. Cary, Midland Ave. and Tallman St., Syracuse, N. Y.

EXTRA fancy white comb, $3.25; fancy, $3.00; No. 1 white, $2.50; No. 2 white, No. 1 amber or buckwheat, $1.85; in carriers of 6 cases. White clover extracted, 6½c; light amber clover, 6c; buckwheat, 5c; in 60-lb. cans. C. B. Howard, Geneva, N. Y.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTE—All our honey-producing friends should take note of the following from the "Guarantee and Advertising Conditions" of Gleanings in Bee Culture: "We will not guarantee any honey buyer's financial responsibility and advise all beekeepers to sell for cash only or on C. O. D. terms except when the buyer has thoroughly established his credit with the sellers."

WANTED—A car or less quantity of white honey, in 60-lb. cans. Mail sample and quote

lowest cash price for same. J. S. Bulkley, Birmingham, Mich.

WANTED—Carlots honey, also beeswax, any quantity. Mail samples, state quantity and price. Hamilton, Wallace & Bryant, Los Angeles.

WANTED—Shipments of old comb and cappings for rendering. We pay the highest cash and trade prices, charging but 5c pound for wax rendered. The Fred W. Muth Co., Pearl and Walnut Sts., Cincinnati, Ohio.

FOR SALE

FOR SALE—Lewis extractor No. 17, new last year, $20.00. C. Dalrymple, Sheridan, N. Y.

SAFIN queen-introducing cage, one, 25c; five for $1. Allen Latham, Norwichtown, Conn.

AUTOMATIC swarm trapper; practical, efficient. Literature free. Vikla Manufacturing Co., Lonsdale, Minnesota.

FOR SALE—Extracting outfit, 500 colonies in Michigan. No bees or combs. J. James Main, 149 Clinton Ave., Kingston, N. Y.

FOR SALE—Root 4-frame power extractor, in good condition, used only 3 years. Desire to sell so that I can buy a Simplicity extractor. A. G. Pastian, Webster, S. D.

COMB FOUNDATION—Note these low prices on 20-lb. lots: medium brood, regular or nonsagging, 46c lb.; thin section, 53c. Wax worked at lowest prices. E. S. Robinson, Mayville, N. Y.

BEST quality bee supplies, attractive prices, prompt shipment. Illustrated catalog upon request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Assoc., Denver, Colo.

FOR SALE — Fine quality queen-mailing cages; Root quality bee supplies; both comb and extracted honey. Orders filled promptly. Write us or drive over M53, fifty miles north of Detroit. Hamilton Bee Supply Co., Almont, Mich.

SOMETHING NEW—"Honey Jelly," a new way to prepare honey, eliminates the stickiness from honey, but the honey flavor is retained with a slight tartness. F. J. Edward's Prepared Pectin, Honey Well Brand, P. O. Box 87, Sacramento, California. Postpaid, package, 20c, makes 5 pounds; dozen packages, $2.00.

$1.50 per gallon, freight paid 1000 miles, for our new crop 100% pure maple syrup, in gallons, 6 per case or 5-gallon tins. Pure maple cream, 50c lb. boxes; $1.00 for two-lb. boxes, plain or with black walnuts or pecans, parcel post prepaid. Try a box for your health. Write today sure for free samples and new health sweet list free. Griswold Honey Co., Madison, O., U. S. A.

BEE SUPPLY SPECIALTIES

METAL EYELETS in your frames will stop the WIRE SAG which is responsible for most SAGGED COMBS. METAL EYELETS, per 1000, 60c. Handy tool for inserting eyelets, 25c, postage, 3c per 1000. Superior Honey Co., Ogden, Utah.

BEES AND QUEENS FOR SALE

WHOLE colonies of bees, if advertised for sale in these columns, must either be guaranteed free from disease, or, if not so guaranteed, the exact condition of the bees and the conditions of sale must be clearly stated in the advertisement; or, it will be satisfactory if the advertiser will agree to furnish a certificate of health from some authorized bee inspector at time of sale.

FOR SALE—50 colonies of bees in 10-frame standard hives; guaranteed no disease; 3 miles southwest Portland, Ind. J. R. Coulson, N. D. No. 1, Portland, Indiana.

TEXAS queens are better. Choice golden or three-banded Italian queens, 50c each. Discount on quantities. A. W. Nations, Donna, Texas.

NORTHERN-RAISED package bees are cheaper. Save transportation and vitality of the bees. H. E. Crowther, Jefferson, Ohio.

BEES and queens: Two pounds of bees with queen, $1.75; three pounds, $2.25. See my large ad on page 274. H. E. Graham, 702 E. 23rd St., Cameron, Texas.

PACKAGE BEES, NUCLEI AND QUEENS at money-saving prices. We ship by parcel post or express. Quality and service guaranteed. Harrison Apiaries, Route No. 1, Honoraville, Ala.

ITALIAN queens, 50c. Bees, 2 lbs., $1.90; 3 lbs., $2.50. Orchard packages on three frames, equal to six pounds bees, $4.00. Will trade for white honey, beeswax. Homer W. Richard, 1411 Champnolle, El Dorado, Ark.

TRY our gentle Caucasian queens ready April 10. Untested, one, 85c; six, $5.00; twelve, $9.00; for larger quantities, write for price. Safe arrival and satisfaction guaranteed. Lewis & Tillery Bee Co., R. 6, Greenville, Ala.

GOLDEN Italian queens, as good as the best, with health certificate. Tested, $1.25; select tested, $2.00; untested, 85c; six, $4.80; twelve, $9.00. For larger orders, write for price. Safe arrival, satisfaction guaranteed. D. T. Gaster, Rt. 2, Randleman, N. C.

GROOM'S high-grade Italian queens produce large yellow bees, that gather enormous crops of honey. They are the gentlest bees that I have ever worked with. May, 65c each; after June 1, 50c; tested, $1.00. Book your orders for June shipments. Willie Groom, Gashland, Mo.

GOLDEN Italian queens for 1932. The big, bright, hustling kind (the kind that get the honey). Prices for May: 65c each; $6.50 per doz.; $50.00 per 100. Two-pound packages with queens, $2.00 each; three-pound, $2.50 each. Safe arrival guaranteed. Health certificate with each package. E. F. Day, Honoraville, Ala.

CHOICE bright Italian queens that are a pleasure to work with and be proud to own. Requeen with stock that has been bred and selected in the North the past 29 years for good winterers, hustlers, gentleness and fine color. One queen, $1.00; 2 or more, 90c each; $9.00 dozen. Breeders, $6.00 each. Emil W. Gutekunst, Colden, N. Y.

CAROLINA QUEENS—Line-bred three-banded leather-colored Italians. The best honey-gatherers, hardy and prolific. All orders filled promptly. If any queen is not satisfactory, please return. Not ordinary queens, but as good as the best. Select (one grade only), 1 to 50, 60c each; 50 or more, 55c each. Carolina Bee Company, Kenansville, N. C.

PACKAGE bees and queens. Lower prices for May and June. Two-pound package with queen, 5 to 100, $1.60 each. Two-pound package without queen, 5 to 100, $1.25 each. Three-pound package with queen, 5 to 100, $2.10 each. Three-pound package without queen, 5 to 100, $1.60 each. All shipments are made by express. Safe arrival guaranteed. Health certificate with every shipment. Little River Apiaries, Box 83, Gause, Texas.

THE NORMA ROY APIARIES—Italian bees and queens: 2 pounds bees with untested queen, $1.75; 3 pounds bees with queen and 2 combs brood and honey, $2.50; 4 pounds bees with queen and 2 combs brood and honey, $3.00. All bees are shipped on standard Hoffman frames, brood and honey. Safe arrival guaranteed and health certificate with shipment. All loss will be immediately replaced. Norma E. Roy, Hessmer, La.

THIRTY colonies of bees in ten-frame hives, guaranteed free from disease. Eight cases amber honey. Edwin Ewell, 115 Hawkins St., Ypsilanti, Mich.

FOR SALE—25 colonies of bees. 10 empty hives, supers and equipment for all, both comb and extracted. Two-frame Root reversible extractor, 10-x 16; portable honey house. Inspection certificate furnished at time of sale. Chas. A. Huffman, Trotwood, Ohio.

QUEENS AND PACKAGE BEES—Untested queens, 75c each; two pounds bees with laying queen, $2.75. Finest Italians, sure to please. 32 years beekeeping experience. Gleanings advertiser from 1911. Write Jason B. Hollopeter, Prop. White Pine Bee Farms, Rockton, Pa.

IF you like extra yellow Italian bees that are good workers, gentle, and not bad to swarm, my queens will produce them for you. Prices, May and June: 1 to 11, 80c each; 12 to 23, 70c each; 24 to 36, 60c each; over 36, 50c each. Tested, $1.25; select tested, $2.00, with health certificate. Safe arrival and satisfaction insured. Ask for circular. Hazel V. Bonkemeyer, Rt. 2, Randleman, N. C.

TREES, SHRUBS, ETC.

CHINESE VITEX (Negunda Incisa) seed, 50c per oz., prepaid. Instructions for growing included. Geo. J. Brown, 994 N. Van Ness, Fresno, Calif.

GROW Vitex trees for beauty and bees. 12 to 24 inch trees, 30 cents; 25 or more, at 25c; 24 to 36 inches, 50c; 25 or more at 40c. All prepaid. Seed, $1.50 per oz. Joe Stallsmith, Galena, Kans.

SITUATION WANTED

YOUNG man, experienced, desires position on bee farm. Fred Wettstein, Jr., Box 3, Lincoln Park, New Jersey.

TWO EXPERIENCED bee men, father and son, want employment for the season. Will go anywhere. P. O. Box 572, Ajo, Arizona.

MISCELLANEOUS

TO increase honey crop two-fifths write me. Delbert E. Lhommedieu, Colo, Iowa.

WANTED—Extractor, good shape and reasonable. J. B. Hohmann, Spechts Ferry, Iowa.

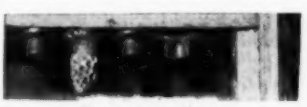
WANTED—To buy good second-hand ten-frame queen excluders. D. C. Stahlman, Buhl, Idaho.

SILVER FOXES—Will exchange for package bees or colonies. Write for booklet. Fred Alger, Waukau, Wis.

TOO LATE FOR CLASSIFICATION

CHOICE clover in new sixties, also amber. Buckwheat in kegs. Henry Williams, Romulus, N. Y.

FOR SALE—Honey comb foundation mill, dipping tanks and boards. One wax press, almost new. Wm. Hermann, R. R. 5, Manchester, Ia.



O. K. Queen Cell Cups

Patent pending. (All Wax)

Takes place of wood-wax cell cups. Have many advantages, 75c per 100, postpaid.

O. K. B. SUPPLY CO., W. MIDDLETON, OHIO

TOLD BY THE JAY

(Continued from page 307.)

using a battering ram endeavoring to batter down the gate when lo! a crock of bees burst right in their midst. While they wore armor, the joints were not bee tight and the armor did not fit well about the neck. They dropped the ram and all went clattering down the hill with a sound not unlike a flock of dogs with tin cans tied to their tails. Thus the castle was saved.

TALKS TO BEGINNERS

(Continued from page 309.)

stand. On the seventh day after the prime swarm was hived, the parent hive should be moved to a new location not close to any other colony. This should be done when the bees are working freely and preferably at the time a large number of young bees are out for their play flight which usually occurs about noon or shortly after. The returning bees from the parent colony will then enter the new hive on the old stand, thus depleting the parent colony just before the first afterswarm would issue, making it impossible for them to swarm on account of having too few bees. If the weather is unfavorable for flight at that time, it is necessary to open the parent hive and destroy all but one of the queen cells, leaving the finest appearing one to prevent further swarming.

Colonies having clipped queens can be hived easily by watching for the queen as she comes from the hive and drops to the ground, catching her in a queen-cage, then moving the hive to one side and placing the new hive in its place. The cage containing the queen should then be thrust into the entrance of the new hive, and the supers, if any, transferred from the old to the new hive. The swarm, on discovering the absence of the queen will return and enter the new hive.

The Lake Pearl Apiaries

Pure Italian bees and queens for 1932 as follows: 1 frame of brood, 2 lbs. bees, $2.00; 2 frames of brood, 3 lbs. bees, $2.50; 3 frames of brood, 3 lbs. bees, $3.00. All packages of bees guaranteed with a health certificate and safe arrival. All loss will be replaced upon receipt of bad-order report signed by express agent. Now all orders with 10 per cent cash, balance 7 days before shipment. Reference, Union Bank, Marksville, La.

Lake Pearl Apiaries

Isaac Roy, Prop. HESSMER, LA.

$2.00 for a 3-lb. Pkg. with Select Untested Queen

$1.60 for a 2-lb. Pkg. with Select Untested Queen

50c Each for Selected Untested Queens

Sufficient overweight in every package to take care of shrinkage in transit. We GUARANTEE every package and every queen to reach you in good condition, if not, we replace free of cost or refund your money with all transportation charges.

THEY ARE BACKED WITH OVER TWENTY YEARS OF EXPERIENCE IN THE QUEEN AND PACKAGE BUSINESS.

L. L. Forehand Apiaries, Jesup, Georgia

NO SWEEPING CLAIMS

"JUST GOOD" BEES & QUEENS

at lowest prices since nineteen-hundred. We are not advertising men but queen-breeders. No lengthy spiel about how good, but just three reasonable statements:

1st. Customers who have bought yearly since 1914, my first year of advertising separately from my father.
2d. Recommended by state inspectors both North and South.
3d. We use them in our 600 colonies located in the famous tupelo regions where enormous colonies early are essential. I know they are good. Let me convince you.

Untested, 60c each: 12 for $6.60; 2-lb. pkg. of Italian bees with queen f. o. b. my station, $2.00; 3-lb. pkg. with queen, $3.00. Write for prices on lots of 12 or more packages. Usual guarantee of pure mating, satisfaction and safe arrival in U. S. and Canada.

N. FOREHAND, DeFUNIAK, FLORIDA

"Better Bred" Italian Queens & Package Bees

AT PRICES NEVER HEARD OF BEFORE

Can you afford to overlook these prices on our fine baby package bees? If there's ever been a time when you should replace your winter losses, it's now.

2-lb. Package with laying queen, $1.50 — 3-lb. Package with laying queen, $2.00
Untested queens, up to 100, 50c each — Untested queens, over 100, 40c each
Canadian customers, add exchange.

We are in position to handle any size orders and give immediate shipments. Satisfaction fully guaranteed.

CALVERT APIARIES, CALVERT, ALA. R. G. Holder.

3-lb. Pkg., $2.00

4-lb. Pkg., $2.40

COMB, OR COMBLESS PACKAGES

Standard 3 frames and 4 frames nuclei, same price. 4 lbs., 2 frames, $3.00; 5-lb., 2 frames, $3.40. Select untested queens, 35c each, any number. Guarantee prompt service, safe arrival, full weight, and entire satisfaction. Years of experience shipping to all parts in U. S. and Canada. Government health certificate on all shipments. All three-banded Italian bees and young laying queens only.

Reference, Merchants & Planters Bank, Bunkie, La.

Cloverland Apiaries
HAMBURG, LOUISIANA
D. A. COINCON, Prop.

Thagard's

Noted Strain of Italians

Originated from imported stock from Italy. Our dark three-banded Italians are gentle and wonderful honey gatherers.

Prices Slashed

2-lb. pkg. with queen.....$1.75
3-lb. pkg. with queen..... 2.40

Queens, 30c Each

After May 20th; before the 20th, 50c each.

The V. R. Thagard Company
Greenville, Alabama

Roy's Special

Special orchard package or early builder: A 2-frame nucleus with 4 lbs. bees and queens, $3.10, any number.

2-lb. pkgs. with queen, $2.00, any number.
3-lb. pkgs. with queen, $2.40, any number.
4-lb. pkgs. with queen, $2.70, any number.

2 and 3 frame nucleus with queen, same price as comb packages.

Please refer to February or March issue for specifications and guarantee.

Address—

Willie Roy, Hessmer, La.

3-Pound Packages,

Any Number $2.10 ea.

We offer a full weight 3-lb. package of pure Italian bees. Each package will contain a 1932 spring-reared select untested Italian queen. Go in standard cages. April and May. 18 years' experience. Safe arrival, health certificate and satisfaction our guarantee. Go by express collect. Cash with order insures prompt shipment.

The Gooch Apiaries
FARMERSVILLE TEXAS

THE PROOF OF THE PACKAGE IS THE HONEY CROP

Our packages produce crops of honey that more than pay the slight additional cost. Certified and accredited by the Alabama Department of Agriculture.

2-lb. package with queen, $2.75; 10 or more, $2.50 each. 3-lb. package with queen, $3.50; 10 or more, $3.25. Queens, 75c each. Canadian money accepted at par.

Safe arrival and satisfaction guaranteed. Health certificate with each shipment. Write for descriptive circular and complete price list.

J. M. CUTTS & SONS
R. 1. MONTGOMERY, ALA.

DON'T FORGET

THAT IN OUR PACKAGE YOU GET

25% Overweight

IN YOUNG ITALIAN BEES.

Prices with young Italian or Caucasian Queens:

	2 lbs.	3 lbs.
1 to 4 pkgs.....	$2.25	$2.75
5 to 24 pkgs.....	2.10	2.60
25 or more pkgs.....	2.00	2.50

Extra Queens, 60c each.

For June prices, write us.

Roy S. Weaver & Bro.
NAVASOTA, TEXAS

Choice Three-banded Italian Queens..... 50c EACH

When you buy our queens you buy queens from a real queen-breeding apiary. We produce every queen we ship out from our very best three-banded breeding queens. We rear these queens by methods that enable us to guarantee them to equal any queens money can buy. I care not where you go, you can not find better queens. We will make prompt shipment of all orders. No disease. Safe arrival and satisfaction guaranteed.

O. D. RIVERS, POWDERLY, TEXAS.

HONOR ROLL, AMERICAN HONEY INSTITUTE SUBSCRIBERS, FROM FEB. 1, 1931, TO APRIL 1, 1932.

Supporting Members

*G. B. Lewis Co., $1200; *Dadant & Sons, $600; *Sioux Honey Assn., $600; The A. I. Root Co., $500; August Lotz Co., $300; Bee Industries Assn., $250; Colo. Honey Prod. Assn., $237.50; John G. Paton Co., $140; American Can Co., $100; Continental Can Co., $100; Hazel-Atlas Glass Co., $100; Hart Glass Mfg. Co., $50; D. D. Stover, $50; Standard Churn Co., $40; Owen-Illinois Glass Co., $15; Leahy Mfg. Co., $5; A. I. Root Co. of Syracuse, $15; A. I. Root Co. of Iowa, $25; A. I. Root Co. of Chicago, $5. *Paid 20% additional assessment in order to keep Institute going.

Contributing Members

Canada—Mrs. S. Tronsdale, 75c.

South Africa—S. Baur, $1.88.

Arizona—Arizona State Bkprs. Assn., $10; W. Doner, 50c; R. Moore, $1; J. Brewster, $1; D. L. Henderson, $5; W. J. W. Anderson, $5.

California—Kern Co. Bkprs. Assn., $7; Butte Co. Bkprs. Assn., $7; J. N. Vasey, $5; J. Morse, $5; H. M. Krebs, $5; C. A. Brown, $10; E. N. Judson, $1; C. Bassett, $1; W. Swegles, 50c; E. J. Snyder, $15; C. F. Williams, $10; A. Koehnen, $25; C. S. Kinzie, $3; C. E. Lush, $2.25; C. Wurschmidt*, $10.80; H. L. Weems, $2.25; W. Wolford, $2.25.

Colorado—L. R. Rice, $10; J. A. Green, $5; Mary T. Comstock, $2; J. A. Green & Sons, $5; S. B. Fralich, $2.50.

Connecticut—Connecticut State Beekeepers' Assn., $25.

Florida—C. W. Harper, $5; E. N. Moses, $1.

Illinois—Jo Daviess Co. Assn., $5; E. J. McCormick, $1; A. D. Boal, $1; C. F. Kannenberg, $1; E. W. Brown, 50c; C. Newman, 50c; F. Hofmann, $3; Gun Mozee, $1; M. M. Guthrie, $1; J. J. Spangler, $1; W. H. Zibble, $1; W. J. Wallances, $1; H. R. Warren, $5; Anna Krier, $1; W. C. Young, $1; Mrs. E. Simmer, $5; J. F. Haan, $5; C. S. Watts, $6; B. H. Fischer, $4; A. E. Thomas, $1; L. B. Meister, 50c; J. P. Scheid, 50c; V. Rocke, $1; L. Rocke, $1; Ogle-Lee Co. Assn., $2; A. J. Polcyn, Will Co Assn., $5; Tri-County Bee Assn., $2; G. L. Sauer, $3; S. S. Clausen, $1; C. Wilde, $1.25; **T. Beddoes, $1; Rock Island Co. Bee Assn., $5;** F. A. Boedeker, $1; C. Holm, $2; S. Cushman, $3; B. Frederick, $5; C. P. Jankowski, $1; C. J. Anderson, $8; L. Peterson & Son, $1; V. G. Milum, $5; H. C. Dadant, $5; S. F. Peterson, $1; C. F. Earle $5; P. Krebs, $1; H. L. Dunn, $5; E. A. Meineke, $10; Ill. State Bpkrs. Assn., $15; Peoria Co. Bkprs. Assn., $5; A. G. Gill, $5.

Indiana—Delaware Co. Bkprs. Assn., $10; C. M. Smith, $1; R. Y. Spindler, $1; C. M. Clark, $5; J. Smith, $1; R. D. Scott, $14.40; W. Sheron, $1; M. Brenneman, $5.07; F. G. Zimmerman, $1; A. L. Scott, $1.

Iowa—L. G. Gartner, $10; A. R. Soder, $2; J. A. Johnson, $3; B. J. Beck, $5; J. A. Conner, **$1; E. H. Reif, Kalona Honey Co., $5;** H. G. Frymeir, $1; E. G. Peterson, $1; H. A. Pease, $4; J. W. Schlenker, $5; J. E. Eckstam Hdw., $3; W. Scott, $1; F. W. Hatch, $1; A. O. Simonds, $2.

Kansas—F. Erdel, $2; Dr. R. Parker, $1; G. Pratt, $1; C. A. Keene, $1; E. F. Dean, $1; John Eiden, $1; C. F. Schad Apiaries, $2.

Louisiana—South Louisiana Honey Prod. Assn., $15.00.

Maryland—Maryland State Bkprs. Assn., $5.

Massachusetts—A. White, $1.05; A. Matz, $1; E. A. Twing, $2.

Michigan—O. Zahn, $3; V. Harris, $24.40; M. N. Dillon, $5; W. Becker, $3; J. Martin, $1.75; W. Rink, $10; D. P. Barrett, $10; D. Running, $54; O. L. Clark, $3; H. Inwood, $2; E. C. Richardson, $1; J. A. Dobson, $1; E. Kocsis, $5; H. P. Christensen, $1; W. J. Hamilton, $5; J. T. Lane, $2; C. A. Huff, $1.10; L. M. Aldrich, $1; W. J. Martin, $4; F. Schroeder, $1; F. Markham, $7; C. E. Glover, $3.35; C. J. Snover, $335; P. W. Hufford, $1; A. Breakie*, $22.81.

Minnesota—Morehouse Bros., $10; I. C. Anderson, $1; C. S. McReynolds, $6.78; P. S. Johnson, $10; G. Seastream, $27.60; Rev. P. J. O'Connor, $5.

Missouri—Nina and Linnie Scott, $1; Dr. W. C. Wilson, $2.

Nebraska—J. H. Lutes, $5; O. S. Bare, $10; H. B. Allen, $10; W. T. Melrose, $3; Nebraska Bypprs. Assn., $36.

New Jersey—R. D. Barclay, $10; New Jersey Bkprs. Assn., $15.

New York—F. W. Lesser, $5; J. Cunningham, $1; E. Watson, $5; Empire State Honey Prod. Assn., $10; Chazy Orchards, Inc., $10; Louise MacMullen, $2; J. H. Sprout, $5; J. W. Grady, $1; F. Parmalee, $1; W. C. Wahl & Son, $5; I. Kenyon, $1; A. W. Barrett, $1; M. Baldridge, $1; Adams & Myers, $15; A. Coggshall, $5; A. French, $1; H. Grimble, $5; A. G. Dye, $2; A. I. Root Co., $10; H. A. Merrell, $1; A. W. Barrett, 50c; A. H. Tuttle, 50c; B. Hosley, 50c; N. Wheeler, 50c; J. W. Hosie, 50c; H. L. Case, 50c; F. B. Loomis, 50c; J. K. Hicks, 50c; H. T. Gable, 50c; G. M. Sowarby, 50c; C. J. Baldridge, 50c; B. B. Coggshall, $5; Wheeler & Turvery, $5; E. W. Gutekunst, $10; F. J. Jones*, $6; Ontario Co. Bkprs. Assn., $3; E. Crane, G. S. Pelling, C. J Baldridge, M. O. Hill, $7.

North Carolina—North Carolina Beekeepers' Association, $100.

North Dakota—H. A. Hailey, $7; C. E. Engle, $36.25; H. H. Harberg, $2; Geo. H. Bott, $1; A. Henschel, $2; Magill & Co., $5; North Dakota Bee Supply Co., $12; North Dakota Bkprs. Assn., $6.

Ohio—R. E. Wyant, $11; C. Wheeler, $3; Sandusky Co. Assn., $5; W. J. Crawford, $5; H. Garber, $2; R. E. Blackwell, $1; J. E. Venard, $1; Pickaway Co. Assn., $10; C. Deeter, $1; F. Dennison, $1; J. H. Diebel, $2; C. Hill, $1; P. G. Snyder, $1; N. B. Kelley, $5; S. M. Alexander, $10; L. A. Mills, $5; C. Hill, $1.50; Ohio State Bkprs. Assn., $50; G. H. Gifford, $1; J. F. Moore, $10; Seneca Co. Bkprs. Assn., $5.

Pennsylvania—E. Baxter, $5; E. E. Seitz, $2; H. A. Fritz, $5; C. S. Kohler, $2; K. O. Liebold, $2; Fuller & Fuller, $5; E. E. Manges, $1; W. G. Schaffer, $1.

South Dakota—H. Hall, $1.48; W. Hoffman, $15; A. L. Moberg, $4.56.

Texas—F. A. Nickell, 50c; T. W. Burleson & Son, $25.

Utah—A. W. Anderson, $1.

Vermont—F. D. Manchester, $5; C. Mraz, $2.

Virginia—J. W. Speers, $1; Mrs. Frank L. Lightfoot, $1.

Washington—N. N. Dodge, $1; C. W. Higgins, $3; J. P. Jouberg, $2; Fred Mandery, $4; E. J. Campbell, 25c; F. Buck, $4; J. E. Schaefer, $1; J. W. Oldham, $2.50; Ada Atwood, $2; I. L. Swain, $4.75.

Wisconsin—Door Co. Assn., $5; Brown Co. Assn., $10; Mrs. V. Wood, $1; Chas. N. Roy, $1; R. I. Knutson, $5; Sheboygan Co. Assn., $10; Washington County Assn., $10.60; Grant County Assn., $10; Clark County Assn., $10; Sauk County Association, $5; H. Hodgson, $5; F. B. Kelsey, $1; C. G. Rhapstock, $1; V. G. Howard, $5; Holsum Products, Inc., $5; E. A. Duax, $1; C. Meyer*, $4.80; W. Perrot*, $4.80; (name not sent)*, 80c; S. P. Elliott, $1; E. M. Johnson, $1.

Wyoming—A. Knapper, $9; Mr. and Mrs. E. O. Rauchfuss, $1; G. Krause, $10.

*Name starred indicates this amount was realized through honey sent to Institute receivers.

Will your name be here in 1933? Subscriptions—20 lbs. of honey for each ton produced—or $1.00 per ton? Mail money to American Honey Institute, 30 Kenmore Road, Indianapolis, Ind., or send honey to nearest receiver as listed in bee papers.

SPECIAL OFFER

Guaranteed or Money Refunded

This list includes first quality bee supplies no longer listed in our regular catalog and also bee supplies that did not pass our inspection for Root Quality.

CASH WITH ORDER

FRAMES (Hoffman) These standard brood frames have the new locked-corner top-bars. They assemble faster than any other frame and are rigid and square. This is our Utility grade.

Only $3.90 per 100

———ORDER NOW—FIRST COME, FIRST SERVED———

SHIPPING CASES (All Wood) These cases are for 4 x 5 x 1⅜ sections. We have only 15 cartons of 10 cases each, K. D.

Only $2.50 for 10

$30.00 for lot.

———ORDER NOW—FIRST COME, FIRST SERVED———

SHIPPING CASES For 4¼ x 4¼ x 1⅞ sections. Nailed with glass front. Hold 24 sections. Only 20 on hand.

Only 30c Each

$5.00 for lot.

———ORDER NOW—FIRST COME, FIRST SERVED———

METAL COVERS 8-frame size, with ⅝-inch rim, nailed and painted, no inner covers included at these money-saving prices. 15 in stock. These are offered at about half price.

Only 60c Each

$6.00 for lot.

———ORDER NOW—FIRST COME, FIRST SERVED———

WOOD COVERS 10—8-fr. size, nailed and painted. These wood covers have the moulded top which sheds the water from the hive. N. P.

Only 40c Each

$3.50 for lot.

———ORDER NOW—FIRST COME, FIRST SERVED———

SECTION SUPERS For 4¼ x 4¼ x 1½ sections, 10-frame size, nailed and painted, with section holders and fence. Only 10 in stock.

Only $1.20 Each

$10.00 for lot.

———ORDER NOW—FIRST COME, FIRST SERVED———

SECTION SUPERS For 4¼ x 1½ sections, packed in 5s K. D., with section-holders and crates. 7 crates.

5 for Only $3.95

$24.50 for lot.

ALL PRICES ARE F. O. B. MEDINA, OHIO—CASH WITH ORDER.
ALL OFFERS ARE SUBJECT TO PREVIOUS SALE.

The A. I. Root Company - - Medina, Ohio

BEES

2 lbs. bees with queen.....$1.95
2½ lbs. bees with queen..... 2.15
3 lbs. bees with queens..... 2.35
Deduct 50c from any package wanted without a queen.
Prepay us your good shipping cages complete with feeders and we will allow you 25c per package off price of BEES.

HERRON & STONE
MILLERTON OKLAHOMA

FOR SALE

Italian Bees and Queens
NOTHING BUT THE BEST
QUEENS, 50c EACH
1-lb. of bees with young queen. $1.75
2-lb. of bees with young queen. 2.75
Add 15% extra to Canada.
All charges paid to your postoffice.

GRAYDON BROS.
ROUTE 4. GREENVILLE, ALA.

Yancey Hustler

BEES and QUEENS
3-band Italians—Ready to Go

2-lb. Pkg. with Select Queen

1-9.	10-24	25-49	50 up.
$2.25	$2.15	$2.00	$1.80

3-lb. Pkg. with Select Queen

1-9.	10-24	25-49	50 up.
$3.00	$2.90	$2.75	$2.50

25% overweight; young bees; guaranteed queens; prompt service.

CANEY VALLEY APIARIES
BOX 1147. BAY CITY, TEXAS

Latham's Queens
"Sher-Suttorne" Queens are line-bred three-banded Italians
This strain of Italians is noted for long tongue-length and also in nectar gathering
1 untested laying Queen 80 cents
6 for $4 50 for $31
Allen Latham
Norwichtown
Season Mayo-June 1 Conn.

Bright Golden Italians

THE QUEENS AND BEES THAT SATISFY AND PLEASE ALL OUR CUSTOMERS SCATTERED THROUGH 33 STATES, CANADA, MEXICO AND CENTRAL AMERICA.
IF YOU SHOULD TRY THEM, YOU, TOO, WILL SEE THAT THEY DO. WRITE FOR PRICES. THEY'RE REASONABLE.

Stevenson's Apiaries, Westwego, La.

Get Running's Bees

And Get Honey—They Satisfy
PACKAGES and NUCLEI
The kind WE use in our extensive Michigan Apiaries, where WE produce honey by the carload.

ALL ITALIAN STOCK
Service guaranteed. Stock bred for honey-getting and gentleness. PRICES RIGHT. Let us name you prices on any quantity.
Apiary accredited and certified by Alabama Department of Agriculture.
For Quick Service,
David Running, Sumterville, Ala.

SEND US YOUR ORDER FOR HONEY LABELS, STATIONERY, AND ALL KINDS OF PRINTING.
PROMPT SERVICE, REASONABLE PRICES.
THE A. I. ROOT COMPANY, MEDINA, OHIO

Red River Valley Apiaries

The home of three-banded Italians. No better bees and queens produced. No better service to be had. Safe arrival and satisfaction guaranteed. 27 years among the bees. I know what I produce and how to ship. Satisfied customers from California to Maine; and every province in Canada. No deposit required for placing your order. The most northern shipper in Dixie; guaranteeing you quicker and cheaper transportation.

2-LB. PACKAGE WITH QUEEN..... $1.75
3-LB. PACKAGE WITH QUEEN..... 2.50

QUEENS, 45c. Shipping points, Arthur City and Paris, Tex.

J. G. BRUNSON, CHICOTA, TEXAS

SWEET CLOVER COMES BACK IN KENTUCKY

(Continued from page 290.)

sons are proving to be a blessing in disguise. The farmers had to have something that would stand dry weather and sweet clover is the plant for this. As sweet clover creeps over the lime areas of the United States, so will bees.

I am indebted for this information to E. W. Fergus, J. F. Freeman, F. T. McFarland, and W. A. Price of the University of Kentucky at Lexington.

Caucasians

We are breeding from the very best imported stock. Our Caucasians are very gentle, and wonderful honey-gatherers.

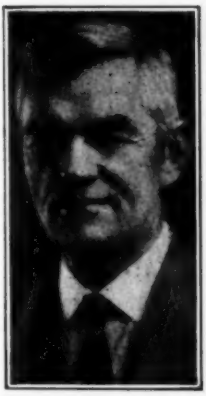
Untested Queens—1 to 4, 80c; 5 to 11, 75c; 12 and up, 70c each. Write for prices on package bees.

GREENVILLE BEE CO., Greenville, Alabama.

Package Bees — Three-banded Italians

For May deliveries. Two-pound package, any number, $1.50 each. Three-pound package, any number, $1.90 each. With selected untested queen in each package. Safe delivery and satisfaction guaranteed, health certificate with each shipment.

Mangham Apiaries Co., Mangham, La.



Queens

It is with a great deal of pleasure and satisfaction that I announce to the readers of Gleanings my plans for the coming season. Progress has always been my motto. Our stock has been improved year by year. Last season I was fortunate in being able to select a number of wonderful breeders in our outyard run for honey. These are the best all-around breeders I ever produced or ever saw. The bees are great workers and produce enormous crops of honey. They are exceptionally gentle, much more so than any bees of any race or strain I have ever tried and I have tried many. Also the bees of these queens are beautiful to look at, yellow as gold. If you have never tried our queens, do so for I feel confident you will be more than pleased as thousands of beekeepers have been.

If you have no copy of our book "About Bees," write for it.

1932 PRICES

Untested, $1.00 each. Tested, $2.00 each. Breeders, $7.50 each.

JAY SMITH

ROUTE THREE. VINCENNES, INDIANA

$2.30 A 3-Pound Package of Bees on Comb

Our prices are down with the depression, but our goods are still there and we aim to give still better service. All bees are shipped on a standard Hoffman frame of brood and honey, natural food for bees in transit, easy to transfer in hive on arrival.

Prices are, with a young select untested queen introduced in package before leaving, the 3-lb. package in lots of 25 or more, $2.30 each; from 1 to 25 packages, $2.40 each. A 5-lb. package on two frames of honey and brood with select tested queen already introduced, $3.50 each.

Our Guarantee: Safe delivery, pure light three-banded Italians shipped on date agreed, full weight, government health certificate with each shipment, 10% oversize, to make up for shrinkage. Can ship on receipt of order. Our shipping season, April 1 to June 15. Order from a breeder who will fill the order himself.

Liberty Apiary, C. A. Mayeux, Prop., Hamburg, Louisiana

LOW PRICES FOR HIGH QUALITY

. . . PACKAGE BEES . . .

Packages with good comb of brood and honey.	1 to 4.	5 or more.
2-lb. with queen	$2.00 ea.	$1.90 ea.
3-lb. with queen	2.50 ea.	2.40 ea.
4-lb. with queen	3.00 ea.	2.90 ea.

4-lb. package, two combs of brood with queen, $3.25 each.

5-lb. package, two combs of brood with queen, $3.75 each.

Combless package prices, same as quoted above. State certificate of inspection with each shipment. Safe arrival and satisfaction guaranteed.

MAYEUX BEE FARM, Alex L. Mayeux, Prop., HAMBURG, LA.

CLOUDS AND SUNSHINE

(Continued from page 313.)

ject, which punctured a small hole, unnoticed by Anthony. As the bees in the package became warm, they naturally boiled out of the hole. After a time Anthony returned, to find the interior of his shack literally covered with bees, at least 10,000 of them crawling everywhere, in his wardrobe, in his bed. In fact, they had taken full possession of the shack.

As he stood beholding this spectacle, two or three bees crawled up his legs under his trousers. In his frantic effort to rid himself of the crawlers he pinched them, and, of course, caused them to sting. To make matters worse, one bee in its effort to gain freedom, flew against his face and left its stinger imbedded in the tip of his nostril. Only those who have experienced this can sympathize with Anthony. He did what any sensible person would do—fled from the shack.

A. N. ONYMOUS.

(To be continued.)

Alabama Apiaries

Breeders of Bees and Queens

That are BETTER Because

We have superior breeding stock, modern equipment, years of experience, and follow the latest improved methods of queen-rearing as given by Mel Pritchard in February issue of Gleanings. Let us prove it with a trial order.

Prices to June 1, delivery to start April 5: Italian queens, 1 to 9, 70c each; 10 or more, 65c each.

Italian bees: 2-lb. packages with queens, $2.25 each. 3-lb. packages with queens, $3.00.

ALABAMA APIARIES

MOUNT PLEASANT ALABAMA

Bright Italian Bees and Queens

All Packages headed by Famous "Diamond" Select Young Laying Queens

2 lbs. with queen	$1.75	3-frame nuclei with queen	$3.10
3 lbs. with queen	2.25	5 lbs. with queen (orchard pkg.)	3.25
2-frame nuclei with queen	2.40	Lower prices in large quantities.	

QUEENS, 40c each, postpaid. We exclude drones and allow full overweight. Orders filled promptly. Health certificates furnished. Safe arrival and satisfaction guaranteed.

ANNOUNCEMENT: Effective May 16th, express rate on live bees reduced one-third.

GARON BEE COMPANY, DONALDSONVILLE, LOUISIANA

SUMMER PRICES

(EFFECTIVE MAY 5TH)

We will supply any number of package bees and queens as follows:

2-lb. package with queen $1.70
5 or more packages, each 1.60

3-lb. packages, add 50c per package.

Select young queens, each 45c
After May 15th, each 40c

You cannot afford to keep empty equipment at these prices.
Prompt shipment and satisfaction guaranteed.

Citronelle Bee Company, Citronelle, Ala.

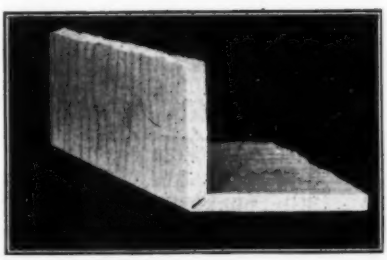
Root - Quality for Quality, We Meet Any Price - 1932

Section Honey Always Sells

At a Good Price in the Fall

Comb honey commands the best price when it is first taken from the hive. As the months pass it is liable to become granulated and "gummy," and is sold at reduced prices. However, honey is not selling for as low a price at this time of the year in comparison as eggs, butter and other farm produce. Old potatoes go begging for buyers now.

Produce Section Honey Cheaply



The Round-bottom V-groove is an important part of the section,—when they are dampened, they fold square and do not break. Fold Root Sections and you will agree.

Root Sections

MADE OF THE WHITEST BASSWOOD LUMBER OBTAINABLE.

—o—

FOLD WITH THE LEAST AMOUNT OF BREAKAGE.

—o—

THAT IS WHY THEY ARE SOLD BY THE MILLIONS

The A. I. Root Company, Medina, Ohio

FREE BOOKLET—"How to Produce Comb Honey and Prevent Swarming."

1932 - Buy from Roots and You Save Money - Root

LOOK!

ACCREDITED AND CERTIFIED

BEES AND QUEENS

The Northern beekeeper demands better and purer bees. Alabama is meeting this long-felt need with Accredited and Certified bees and queens. If you want purer and better bees and queens, order our Accredited and Certified stock. They are worth more but our prices are in line with others, so why take the risk in buying cheaper and inferior stock elsewhere. A circular pamphlet on Accredited and Certified bees will be mailed you on request.

VIA EXPRESS COLLECT

2-lb. pkg. with sel. unt. queen. $2.50 each
10 to 20 packages..... 2.25 each
20 or more packages..... 2.00 each
3-lb. pkgs. with select untested queens, 50c per pkg. more than 2-lb. pkgs.

Prepaid prices quoted on request. Express will be reduced 33⅓% after May 15th.

Select untested queens, 70c each; five or more, 60c each.

To Canadian customers, no exchange to pay as we accept your money at its Canadian value.

100% satisfaction guaranteed on everything I ship.

Hayneville Apiary Co.
W. E. Harrell, Prop. Hayneville, Ala.

TEXAS-BRED BEES & QUEENS

FOR AN EARLY START

Untested Queens..75c each; 10 or more, 65c each.
Tested Queens..$1.50 each; 10 or more, $1.25 each.
2-lb. pkg. bees with untested queen. $2.50
3-lb. pkg. bees with untested queen. 3.50
Place your orders now for April and May delivery.

The A. I. Root Co. of Texas
P. O. Box 765. SAN ANTONIO, TEX.

Carniolan Queens

Here we are with our hardy northern-bred queens. They are very gentle, winter extra well; build up very quickly; excellent for pollination purposes, as they work on very cold days. No foul brood in our yard.

Am booking orders now for May and June delivery. No package bees.

Untested queens, one, 60c; dozen, $7.00.

A. M. MIDDLETON
FORT EDWARD NEW YORK

Norma's Special

High quality Italian queens and bees at prices to meet depression. Prices as follows:

Special Orchard packages—A 2-frame nucleus, 3 additional pounds of bees, with a young laying queen introduced, for $3.25 each, any number.

2-lb. package with young laying queens, $2.00 each, any number.

3-lb. packages with young laying queens, $2.50 each, any number.

4-lb. packages with young laying queens, $3.25 each, any number.

2-frame nucleus with young laying queens, $2.00 each, any number.

3-frame nucleus with young laying queens, $2.50 each, any number.

All bees are shipped on standard Hoffman frames of brood and honey. Safe arrival guaranteed, and a health certificate with each shipment. All loss will be immediately replaced upon receipt of bad-order report signed by express agent. Shipping season starts April 1st. Orders booked with 10% down, balance 10 days before shipment. Also ship combless packages upon request at same price as comb packages.

All prices are F. O. B. shipping point.

Address—

The Norma's Apiaries
Rev. J. L. Mahussier, Prop.
Hessmer, Louisiana

Accredited and Certified

THRIFTY

Bees and Queens

TWO-POUND PACKAGES

2-lb. packages, $1.75 each
3-lb. packages, $2.25 each

We ship over-weight packages of young, THRIFTY bees that build powerful colonies in time for your honey flow.

THRIFTY QUEENS

1 to 24 untested queens, 50c each; 25 or more, 45c each.

If information is wanted about accredited and certified bees, write us.

THRIFTY BEES ARE GUARANTEED TO PLEASE

We can make prompt shipment.

W. J. FOREHAND & SONS
FORT DEPOSIT, ALA.
Since 1892.

Caucasians

have all the good traits of Italians plus extra gentleness, less swarming, more prolific, longer tongues, less robbing and more dependable workers. Breeders from Province of Terek, Caucasus.

1 untested queen $0.90
6 untested queens 5.00
12 untested queens 9.50

Carniolans

Best of winterers, very gentle, very prolific at all times and most excellent workers. My own and Jan Strgar imported strain. 26th year with them.

1 untested queen $0.80
6 untested queens 4.50
12 untested queens 8.50

Both races build up rapidly during the changing weather of the spring months and give better results in the northern and western sections of the country where the flow comes early. The low price of honey necessitates your using the most dependable bees as well as efficient management. Queens ready about May 25.

Albert G. Hann, Glen Gardner, N. J.

PALMETTO QUEENS AND BEES

Quality bred Italian bees and queens will not fail you. One queen, 50c; six, $2.90; twelve, $5.50; fifty, $20.00. Two-pound packages Italian bees with queens, $1.75 each, any number. Three-pound packages, 50c each additional package. Booking queen orders for June delivery at 30c per queen. Overweight packages, pure Italian bees, safe arrival and satisfaction guaranteed. Add 10% exchange on Canadian orders.

C. G. ELLISON, BELTON, S. C.

Queens, 40c

PURE ITALIANS

Untested, 40c each; 6, $2.25; 12, $4.50. Satisfaction guaranteed.

G. H. MERRILL

Route 1. GREENVILLE, S. C.

QUEENS, 45c

ARE SELDOM EQUALED AND NEVER SURPASSED

No disease here—never has been. I ship in light cages on sugar syrup. All packages 15% overweight. Young baby bees and queens. I guarantee all queens to be purely mated. And you will get them when you want them. If there are losses, I assume them and give prompt replacement or refund. All packages f. o. b.

	1-10.	11-25
2-lb. pkg. with young laying queen.	$2.00	$1.95
3-lb. pkg. with young laying queen.	2.50	2.45

Untested queens, 45c each. Select untested queens, 55c each.

John A. Norman, Ramer, Ala.

LOOK! LOOK!

2-lb. package

$1.60

3-lb. package

$2.15

Special prices in lots of 100 or more. This with our guarantee of complete satisfaction. Order direct from this advertisement.

Geo. A. Hummer & Son

PRAIRIE POINT, MISS.

Queens, 50c

ARE SELDOM EQUALED AND NEVER SURPASSED

In 1919, I was discharged from the U. S. army; in 1920, I went into the bee business; in 1921, I began shipping bees and queens to all sections of U. S. and Canada. I am glad to say up to now that many of my customers seem like personal friends.

I am in my life's work and will expect to do business with you and your friends again. With a strain of three-banded Italian bees and queens, with an unsurpassed record for honey-gathering in all parts of U. S. and Canada. You can pay more, but you can not get better bees or more honest service.

2-lb. pkgs. with young laying queen, 1 to 12, $2.00; 13 to 25, $1.95.

3-lb. pkgs. with young laying queen, 1 to 12, $2.50; 13 to 25, $2.45.

Untested queens, 50c each. Select untested, 60c each.

All packages F. O. B. shipping point. State health certificate. My guarantee: Light shipping cages, full weight of bees, prompt shipment, safe arrival, and satisfaction in U. S. and Canada.

N. Norman, Naftel, Ala.

Good Italian Queens

Our early queens are produced by an experienced queen breeder who has spent four seasons with our head queen breeder, Mel Pritchard. The queens are bred from Root stock.

Furthermore, the queens are sent to our customers in our Deyell mailing and introducing cages that help to insure safe introduction.

Queen Prices

Quantity:	1-9.	10-24.	25 or over
Untested Queens .	$1.00 ea.	$0.90 ea.	$0.75 ea.

Note: Untested Queens are young laying queens reared this season.

Watch for our June Ad on Root Medina Northern-bred Queens.

Package Bees

Try our special 2½-LB. PACKAGE OF BEES WITH A YOUNG LAYING ITALIAN QUEEN. It is an intermediate sized package that ships well. Specific directions for hiving accompanies each shipment.

Special package with queen, $3.10
Special package without queen, 2.25

❖ ❖

The A. I. Root Company . . Medina, Ohio

Buy Root Bee Supplies---Save Money

Triple Locked-corner Frames.....100, $4.50
5 Standard 10-frame Hives, K. D..... 12.70
Three-ply Foundation, 50 sheets..... 4.15

A few of the money-saving offers in our 1932 catalog.

A. I. ROOT COMPANY OF PHILADELPHIA

10 Vine Street Philadelphia, Pa.

LOWER PRICES

--ON--

PACKAGE BEES

BUT THE SAME HIGH QUALITY

2-lb. Pkg. with Queen **$1.75**

3-lb. Pkg. with Queen **$2.25**

If you want a hundred or more packages, write us. We can save you money.

Guaranteed to be as good as money will buy.
Young Bees, Overweight, Prompt Shipment, Young Queens.

Same Quality, Same Weight, Same Guarantee as Always.
You must be satisfied.

Lower Express, Thanks to Everyone

After May 15th, the express on bees will be reduced and will only be ⅔ as much as now.

We are here to save you money on Bees and Bee Hives.
Hives, Hive Bodies, Supers and Hive Parts Cheap.

5 Metal-Covered Hives for $9.45

The Stover Apiaries

Tibbee Station, Miss.

Shipping Points: Mayhew, Miss., Natchez, Miss., and Helena, Ga.

HERE TO SHIP YOU ONE PACKAGE OR A THOUSAND.
IF WANTED BY PARCEL POST, ADD POSTAGE.

SMITH'S

ACCREDITED

Bees and Queens

at lowest prices on record. GUARANTEED by us, ACCREDITED and CERTIFIED by the STATE of ALABAMA. Write for our MAY prices on PACKAGES. They are very low.

Selected queens, 1, 50c; 10, $4.50; 25 up, 40c. After June 1, 1, 40c; 10c, $3.50; 25 up, 30c. HIGHEST QUALITY at LOWEST PRICES and a GUARANTEE of SATISFACTION is yours when BUYING from

N. B. Smith & Company

Calhoun, Alabama

Bees and Queens Galore

We are situated on main line of railway that connects with all the main lines of the North and West, insuring your bees to reach you on time, and in nice shape.

We do not have a single dissatisfied customer that we know of.

Will have several thousand pounds of three-banded Italian bees. Also several thousand queens for April and May delivery.

Plenty of efficient help to get them to you on time.

2-lb. pkg. with queen.....$1.60
3-lb. pkg. with queen..... 2.00
Queens .....50c each

SHAW & HOMAN

SHANNON MISSISSIPPI

Italian Bees and Queens

2-pound package with queen, $2.25; 3-pound, $3.00.

Queens, 75c each; 6, $4.20. Satisfaction and safe delivery guaranteed. Ship May 20 and on.

I have the bees of Mr. George H. Rea of Reynoldsville, Pa., and can send you some fine queens and bees.

RONALD KIRK

R. D. 1, Box 34. ROCKTON, PA.

50 May Queens Cents Each

for good three-band Italians, any number.

D. W. Howell, Shellman, Ga.

COLLIER'S

Queens and Bees

BY RETURN MAIL

Queens, 40c, Pure Italians

Free from disease. Health certificate with all shipments. Pure mating guaranteed. Will replace or refund money if not satisfactory.

Untested queens, 40c each; untested select queens, 45c each.

2-lb. pkg. with young laying queen, 1 to 10, $1.95; 11 to 25, $1.90 each.

3-lb. pkg. with young laying queen, 1 to 10, $2.40; 11 to 25, $2.35 each.

D. E. Collier, Ramer, Alabama

CAUCASIAN
BEES AND QUEENS

Your honey profits depend upon the amount produced and cost of production, so why not let our bees gather your honey at less cost! After many years of selective breeding we are able to offer you a strain of Caucasians that are record honey-producers, exceedingly gentle and are very prolific. They are less inclined to swarm and rob. Prices for April and May:

Two-lb. packages with queens, 1 to 4, at $3.50; 5 to 9, at $3.25; 10 to 24, at $3.00. Untested queens, 1 to 5, 90c; 6 for $5.00; 12 for $9.50; 13 to 24, 75c. Select tested, $2.50. We guarantee freedom of disease, pure mating and satisfaction.

BOLLING BEE CO., Bolling, Ala.

KNIGHT'S PACKAGE BEES AND QUEENS

ACCREDITED AND CERTIFIED BY ALABAMA DEPARTMENT OF AGRICULTURE

A COMMON COMPLAINT CORRECTED.—I am told, among buyers of package bees that some queens supersede after installing. I guarantee mine not to supersede soon afterwards. Knowing how to rear good queens, and the purchaser following printed directions practically eliminates this complaint.

QUALITY ALWAYS.—In these trying times one needs volume of honey produced at the least cost. My three-banded leather-colored Italians gather more honey than any other strain. They also are the best winterers, gentle and prolific.

SERVICE.—You can depend on my shipping the bees on the day you name.

PRICES, EXPRESS COLLECT—2-lb. pkg., including select young laying queen, $2.75. 3-lb. pkg., including select young laying queen, $3.50. 10 pkgs., either size, 25c less each. 20 pkg., either size, 50c less each. For larger pkgs., add 75c per lb. Queenless pkgs., 75c less.

PRICES, PREPAID PARCEL POST—2-lb. pkg., including select young laying queen, $3.25; 3-lb. pkg., including select young laying queen, $4.00. Write for delivered prices on larger quantities.

QUEEN PRICES—Select (one grade only), one, 75c; ten, 70c each; fifteen or more, 65c each. Tested, last fall rearing, $1.00. All queens guaranteed mated pure. Should you find a queenless colony this spring send to me for a young queen to save them. Safe arrival and satisfaction guaranteed. Health certificate and all necessary papers accompany shipment. Shipping season begins about April 1.

CANADIAN MONEY ACCEPTED WITHOUT EXCHANGE ADDED.

JASPER KNIGHT, HAYNEVILLE, ALABAMA

Jensen's Special Bargains for May

TO MAY 15

2-LB. PACKAGES WITH SELECT UNTESTED QUEENS....$1.75 EACH
3-LB. PACKAGES WITH SELECT UNTESTED QUEENS.... 2.25 EACH

AFTER MAY 15

2-LB. PACKAGES WITH SELECT UNTESTED QUEENS.... 1.60 EACH
3-LB. PACKAGES WITH SELECT UNTESTED QUEENS. .. 2.10 EACH

QUEENS—SELECT UNTESTED. GUARANTEED TO BE AS GOOD AS ANY, REGARDLESS OF PRICE. 3-BANDED ITALIANS ONLY.

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for MERRILL quality untested Italian queens. Smaller quantities, 40c each.

We have shipped about 200,000 packages and over 350,000 queens, and know when you are getting a square deal. That is why we offer 100% satisfaction or money back.

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Shall Price or Quality Rule?

Quality Bred Italian Bees and Queens. Our bees cost no more, quality considered. If you appreciate quality, quantity and service our prices will interest you. Large over-weight packages, real values. Our light shipping cages and methods of crating have saved customers much money on express during the past few years. Safe shipping, no claims during the last four years. This we claim no credit but feel that this record was a good contribution in favor of the recent one-third reduction on express rates on bees, which becomes effective May 16, and we are very thankful that this matter has been achieved.

We are prepared to handle your orders satisfactory to you, whether large or small. If you do not have our price list, write for one immediately. It is not what you pay, but what you get for what you pay that counts. Your rush orders will be appreciated.

A complete stock of Lewis Beeware and Dadant's Foundation at catalog prices.

York Bee Company, Jesup, Georgia

(The Home of Quality Products)

Index to Advertisers

Achord, W. D. 274
Alabama Apiaries 324
American Honey Institute 320
Berry & Co., M. C 273
Bolling Bee Co 330
Brooks Appliance Co 275
Brunson, J. G. 322
California Bee Tool Co 271
Calvert Apiaries 318
Caney Valley Apiaries 322
Citronelle Bee Co. 324
Cloverland Apiaries 319
Collier, D. E. 330
Crowville Apiaries, The 271
Cutts & Sons, J. M 319
Dadant & Sons 276
Ellison, C. G. 327
Falconer Mfg. Co. 275
Forehand, L. L. 318
Forehand, N. 318
Garon Bee Co. 324
Gooch Apiaries, The 319
Gaspard, J. L. 271
Graham, H. E. 274
Graydon Bros. 322
Greenville Bee Co. 323
Gulf Coast Bee Co 270
Hann, Albert G 327
Hazel-Atlas Glass Co ..... Inside Back Cover
Herron & Stone 322
Hilbert, Jas. E 275
Howell, D. W 330
Hummer & Son, Geo. A 327
Hunt & Son, M. H 266
Jensen's Apiaries 331
Knight, Jasper 331
Kirk, Ronald 330
Lake Pearl Apiaries 317
Latham, Allen 322
Lewis Co., G. B. ..... Inside Front Cover
Liberty Apiary 323
Lotz Co., August 266
Mangham Apiaries Co 323
Mayeux Bee Farm 323
Merrill Bee Co. 331
Merrill, G. H. 327
Miller, I. F. 273
Mott & Son, E. E 275
Muth Co., The Fred W 267
O. K. B. Supply Co 317
Norman Bros. Apiaries 271
Norman, John A 327
Norman, N. 327
Pettit, Morley 275
Poultry, Garden & Home 275
Red Stick Apiaries 271
Rivers, O. D. 319
Root Co., A. I., The 272, 321, 325, 329
Outside Back Cover
Root Co. of Chicago, A. I 266
Root Co. of Iowa, A. I 267
Root Co. of Philadelphia, A. I 329
Root Co. of Syracuse, A. I 266
Roy, Willie 319
Running, David 322
Rusch & Son Co., A. H 267
Savings Deposit Bank Co. 267
Shaw & Homan 330
Smith, Jay 323
Smith & Co., N. B 330
Stevenson's Apiaries 322
Stover Apiaries 328
Superior Honey Co. 267
Thagard Co., The V. R 319
Weaver & Bro., Roy S 319
Williamson, Chas. J 275
Woodman Co., A. G 273
York Bee Co 332